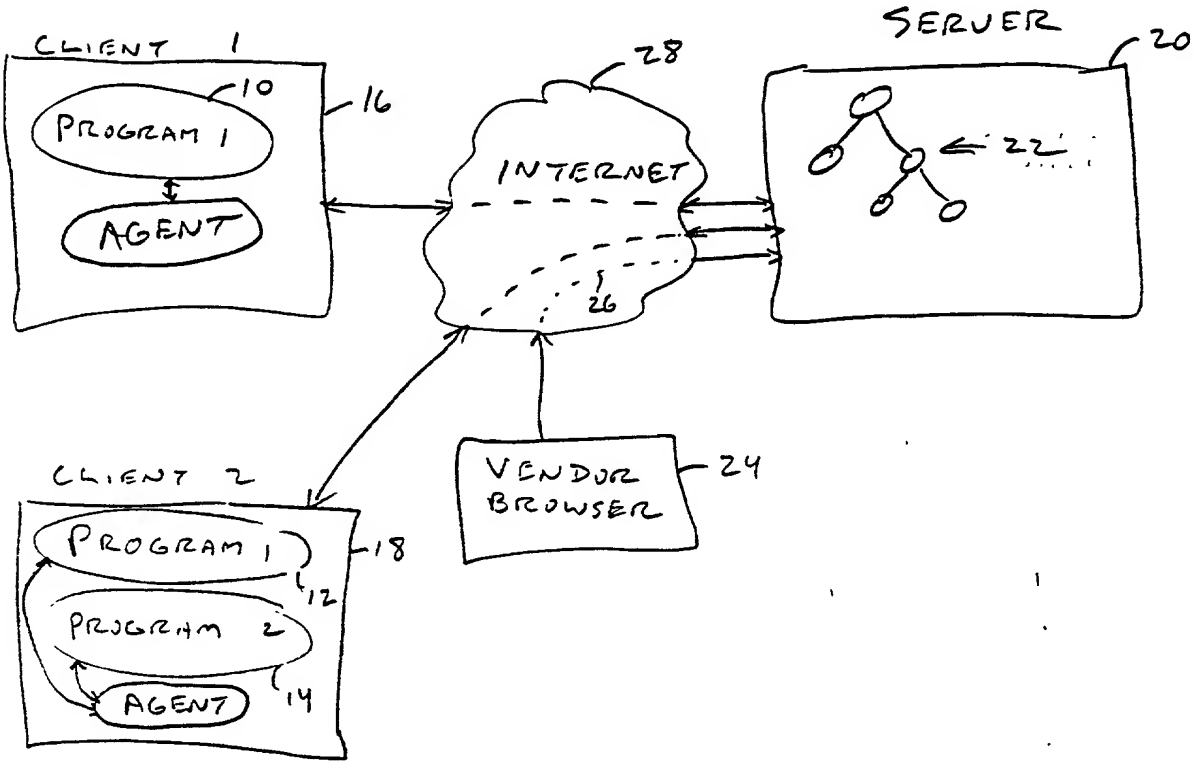

CLIENT 1
PROGRAM 1
10
16
AGENT
28
INTERNET
26
SERVER
20
22
CLIENT 2
PROGRAM 1
18
12
PROGRAM 2
AGENT
14
VENDOR BROWSER
24

FIG. 1

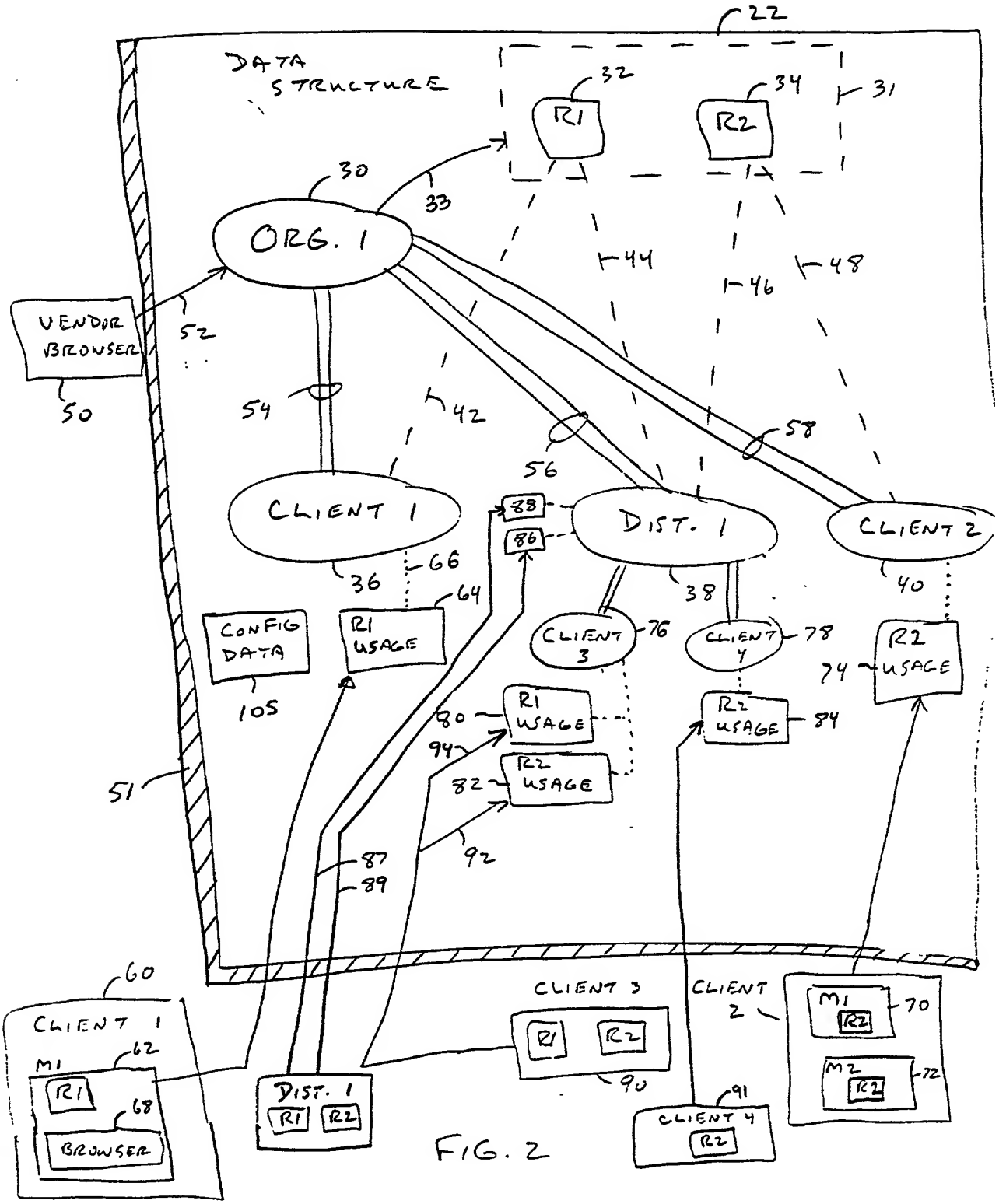

22
DATA STRUCTURE
32
R1
34
R2
31
30
33
ORG. 1
44
46
48
VENDOR BROWSER
52
50
54
42
56
58
CLIENT 1
88
86
DIST. 1
CLIENT 2
36
66
38
40
CONFIG DATA
105
R1 USAGE
64
CLIENT 3
76
CLIENT 4
78
R2 USAGE
74
80
R1 USAGE
94
82
R2 USAGE
84
51
87
89
92
60
CLIENT 1
M1
62
R1
68
BROWSER
DIST. 1
R1
R2
CLIENT 3
R1
R2
90
CLIENT 2
M1
R2
70
M2
R2
72
91
CLIENT 4
R2

FIG. 2

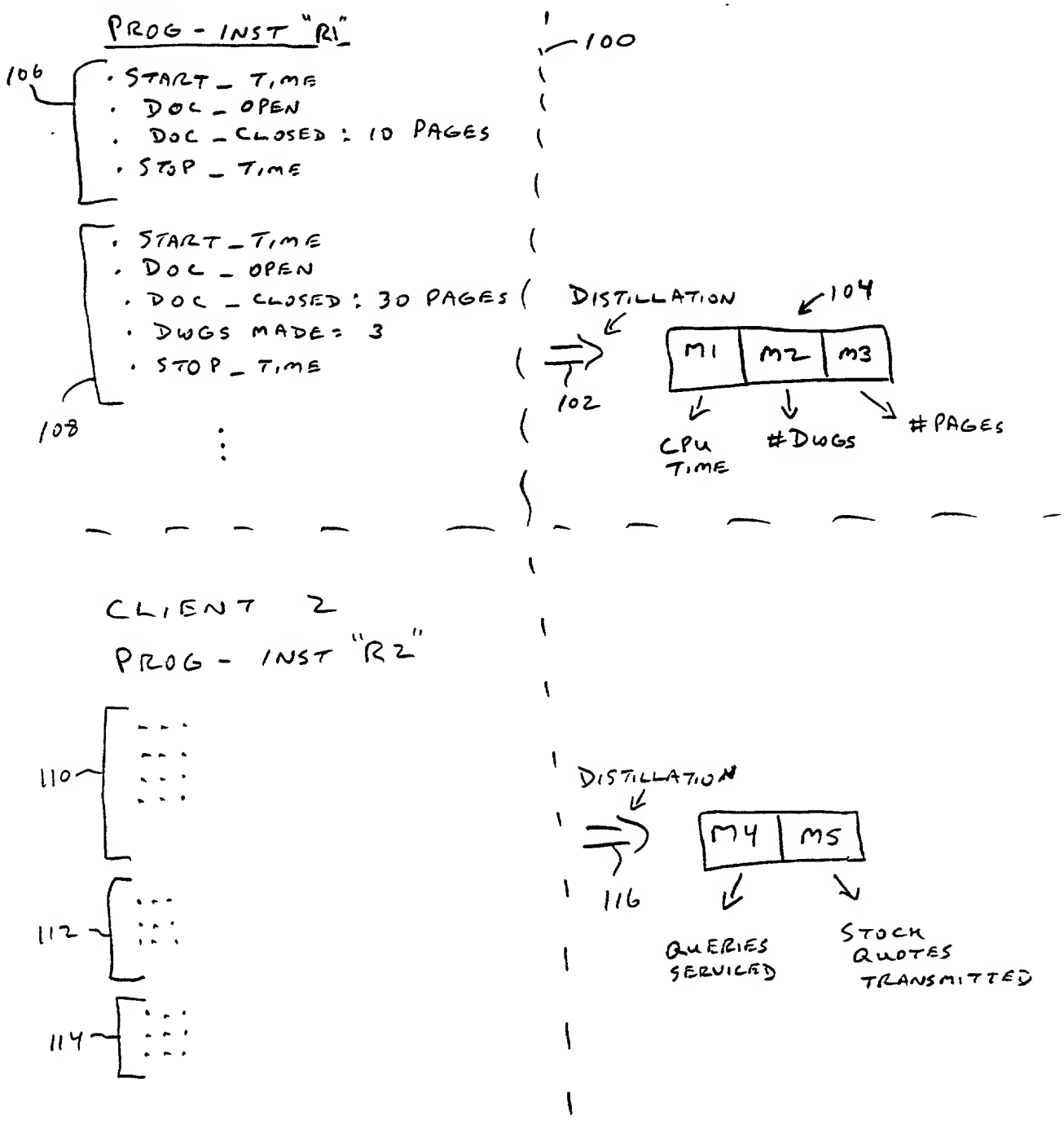

CLIENT 1
PROG - INST "R1"
100
106
• START_TIME
• DOC_OPEN
• DOC_CLOSED : 10 PAGES
• STOP_TIME
• START_TIME
• DOC_OPEN
• DOC_CLOSED : 30 PAGES
• DWGS MADE = 3
• STOP_TIME
108
DISTILLATION
104
102
M1
M2
M3
CPU TIME
#DWGS
#PAGES
CLIENT 2
PROG - INST "R2"
110
112
114
DISTILLATION
116
M4
M5
QUERIES SERVICED
STOCK QUOTES TRANSMITTED

FIG. 3

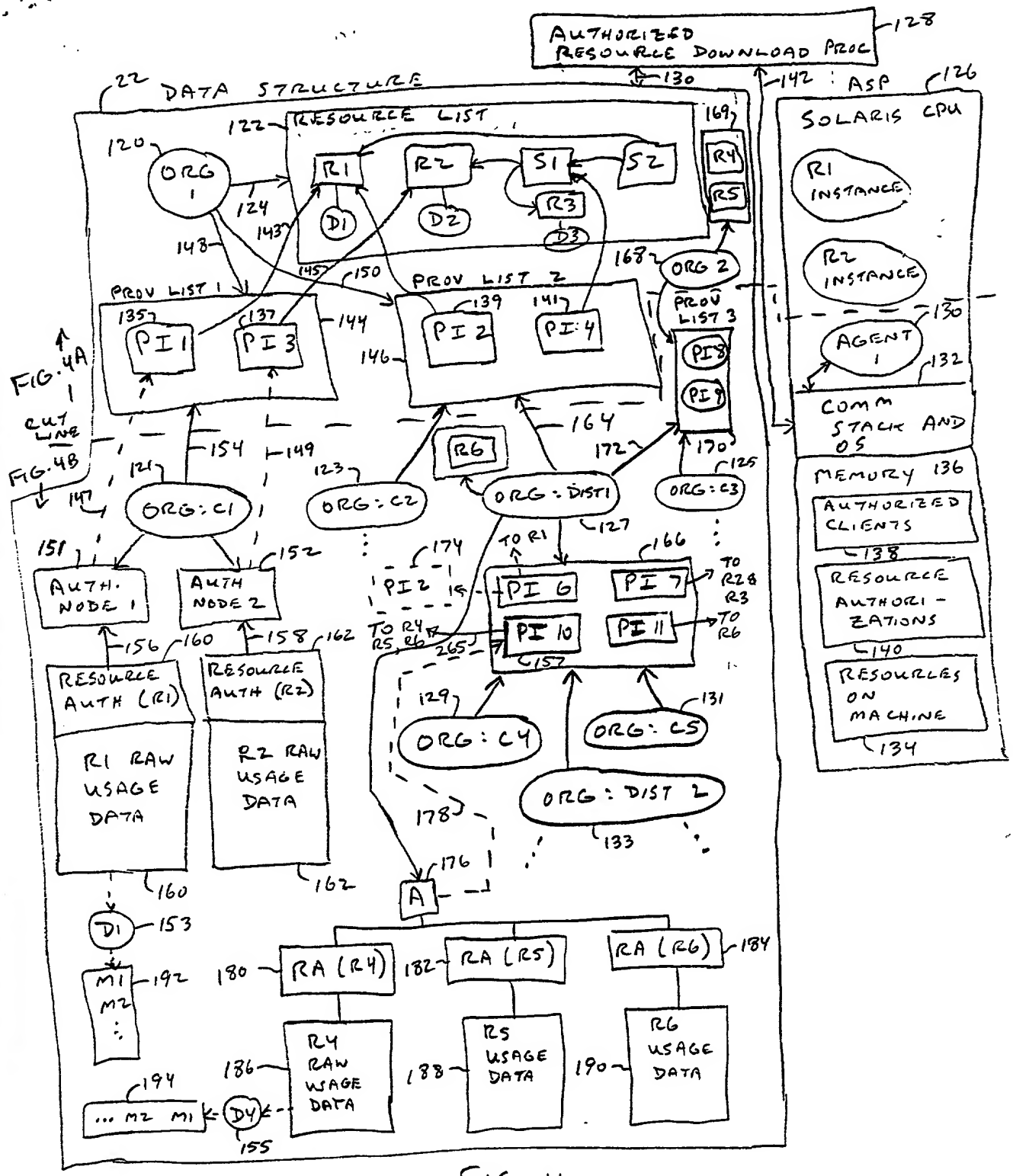

AUTHORIZED RESOURCE DOWNLOAD PROC
128
130
142
ASP
126
SOLARIS CPU
22
DATA STRUCTURE
RESOURCE LIST
122
169
120
ORG 1
R1
R2
S1
S2
R4
R5
R3
D1
D2
D3
124
143
148
145
150
168
ORG 2
PROV LIST 1
PROV LIST 2
PROV LIST 3
135
137
139
141
144
146
PI 1
PI 3
PI 2
PI 4
PI 8
PI 9
R1 INSTANCE
R2 INSTANCE
AGENT 1
132
COMM STACK AND OS
MEMORY 136
AUTHORIZED CLIENTS
138
RESOURCE AUTHORI-ZATIONS
140
RESOURCES ON MACHINE
134
FIG. 4A
CUT LINE
FIG. 4B
154
149
164
R6
172
170
125
121
123
147
ORG: C1
ORG: C2
ORG: DIST1
ORG: C3
127
151
152
174
TO R1
166
AUTH. NODE 1
AUTH NODE 2
PI 2
PI 6
PI 7
TO R2 & R3
TO R4 R5 R6
PI 10
PI 11
157
156
160
158
162
265
RESOURCE AUTH (R1)
RESOURCE AUTH (R2)
129
131
R1 RAW USAGE DATA
R2 RAW USAGE DATA
ORG: C4
ORG: C5
ORG: DIST 2
178
133
176
A
D1
153
M1
M2
192
180
RA (R4)
182
RA (R5)
RA (R6)
184
194
186
188
190
R4 RAW USAGE DATA
R5 USAGE DATA
R6 USAGE DATA
... M2 M1
D4
155

FIG. 4

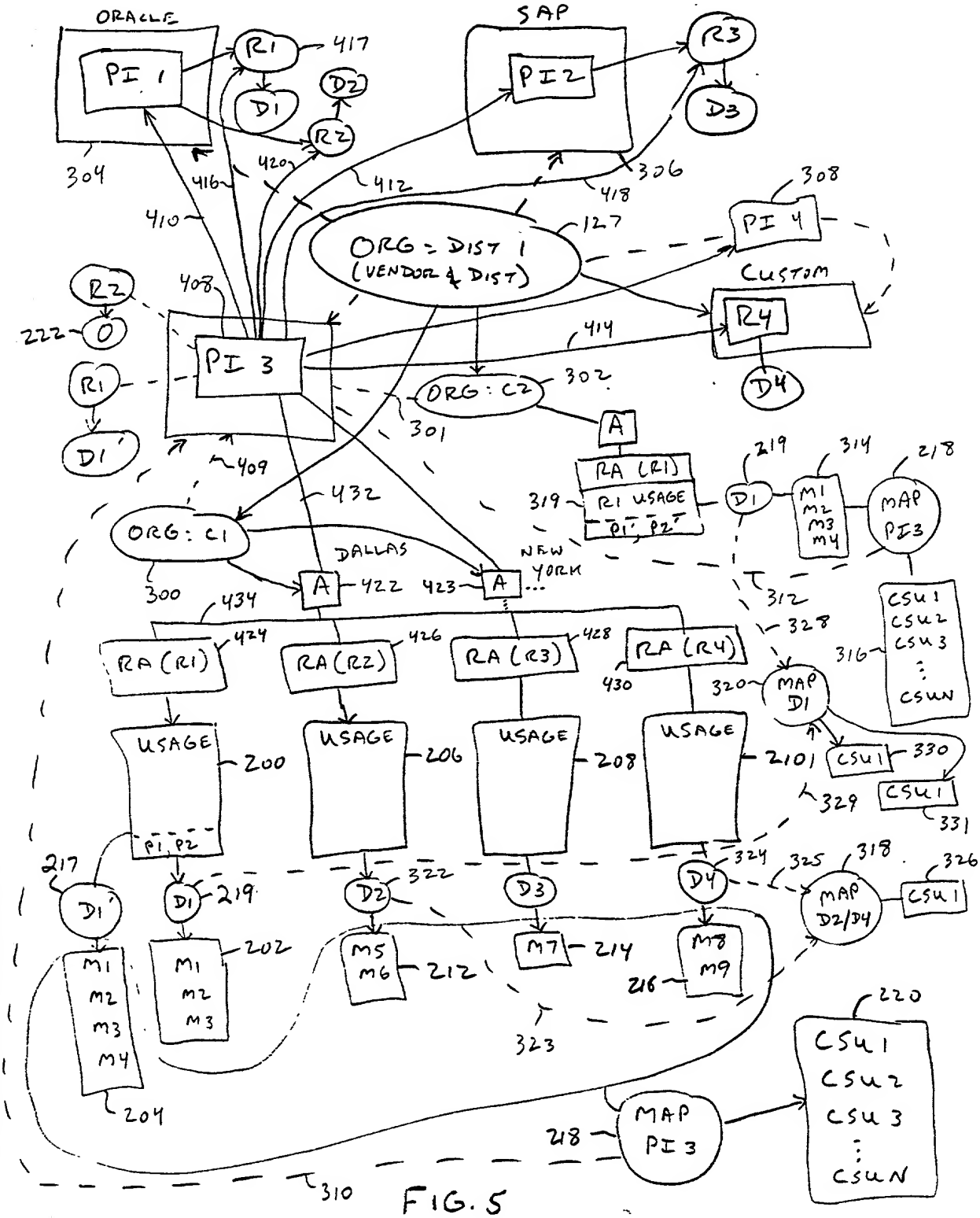

ORACLE
PI 1
R1
D1
D2
R2
417
304
416
420
412
SAP
PI 2
R3
D3
306
418
308
PI 4
410
ORG = DIST 1
(VENDOR & DIST)
127
CUSTOM
R4
D4
R2
408
222
0
PI 3
414
R1
D1
409
ORG : C2
302
301
A
RA (R1)
R1 USAGE
P1, P2
319
219
D1
314
M1
M2
M3
M4
218
MAP
PI3
432
ORG : C1
DALLAS
NEW YORK
300
A
422
423
A
434
312
328
RA (R1)
424
RA (R2)
426
RA (R3)
428
RA (R4)
430
320
MAP
D1
316
CSU1
CSU2
CSU3
CSUN
USAGE
200
USAGE
206
USAGE
208
USAGE
210
CSU1
330
329
CSU1
331
217
D1
P1, P2
D1
219
D2
322
D3
D4
324
325
318
MAP
D2/D4
CSU1
326
M1
M2
M3
M4
204
M1
M2
M3
202
M5
M6
212
M7
214
M8
M9
216
323
220
CSU1
CSU2
CSU3
CSUN
MAP
PI 3
218
310

FIG. 5

OVERALL PROCESS TO DISTILL RAW USAGE DATA TO METRIC DATA BY A PROGRAMMABLE MAPPING

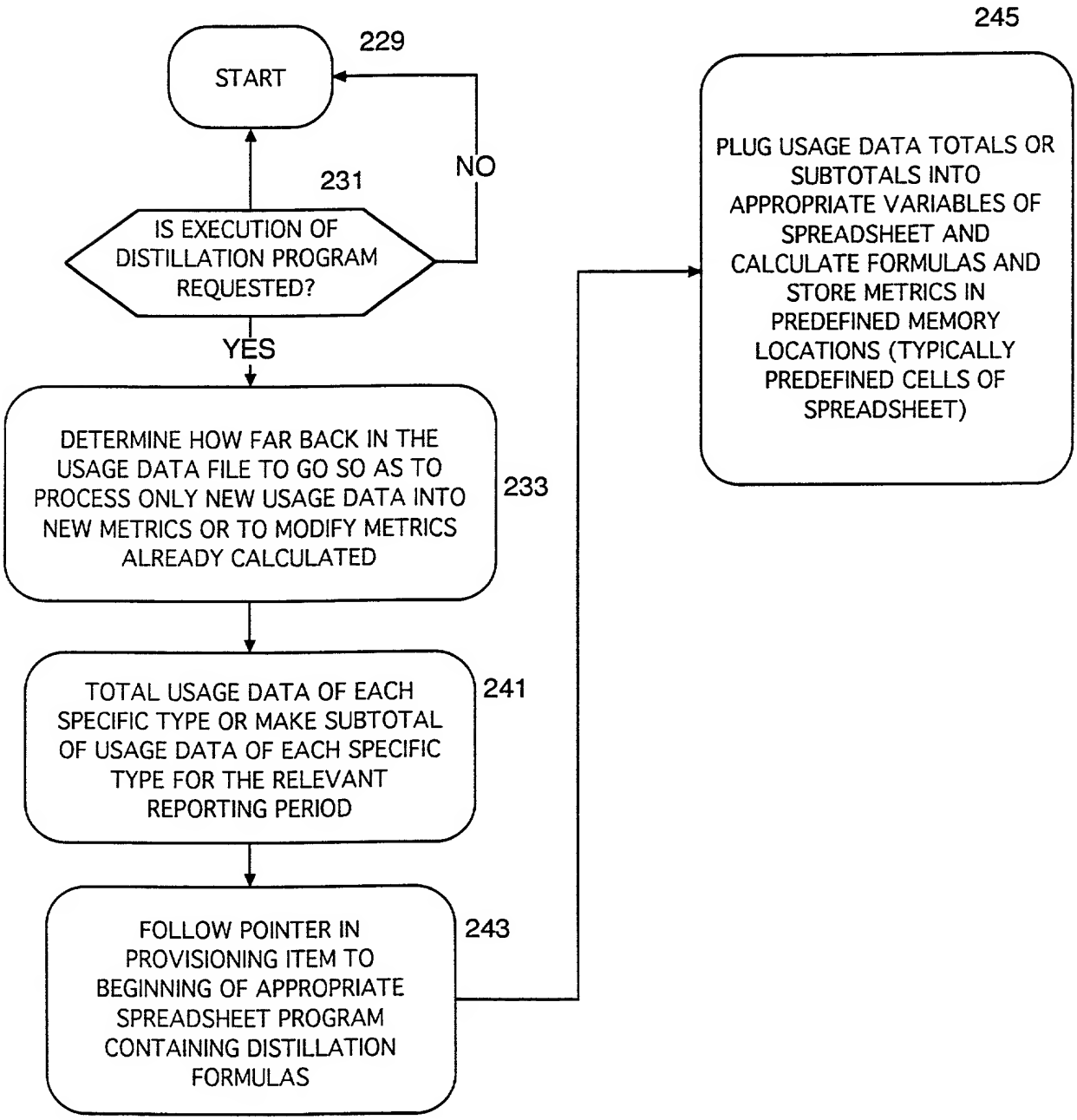


FIG. 6A

OVERALL PROCESS TO DISTILL RAW USAGE DATA TO METRIC DATA BY A PROGRAMMABLE MAPPING USING A PROGRAMMABLE DISTILLATION PGM

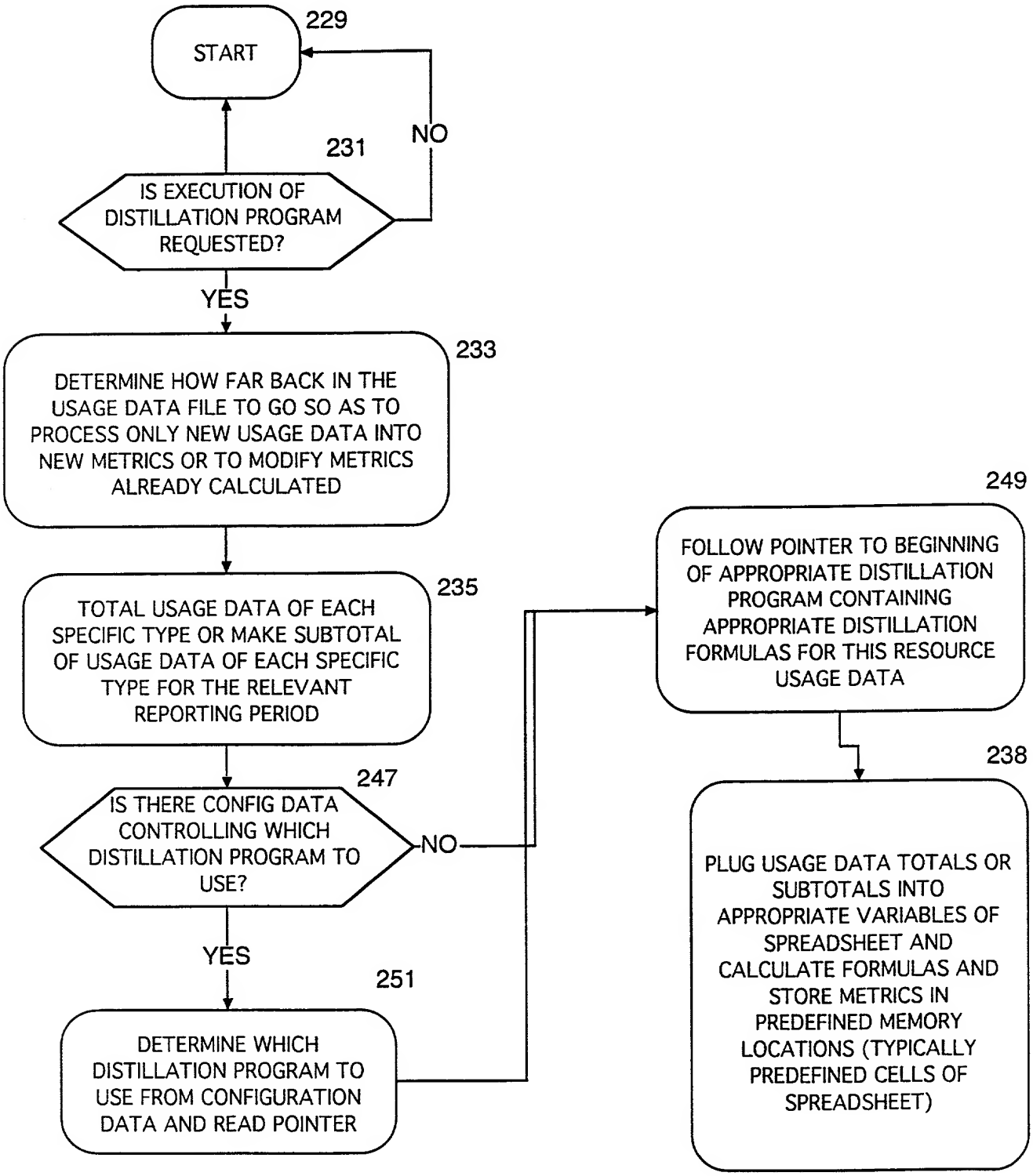


FIG. 6B

PROCESS TO PROGRAMMABLY DISTILL RAW USAGE DATA TO METRICS AND PROGRAMMABLY DISTILL THE METRICS INTO CENTRAL SERVICE UNITS OF THE CUSTOMER'S DESIGN

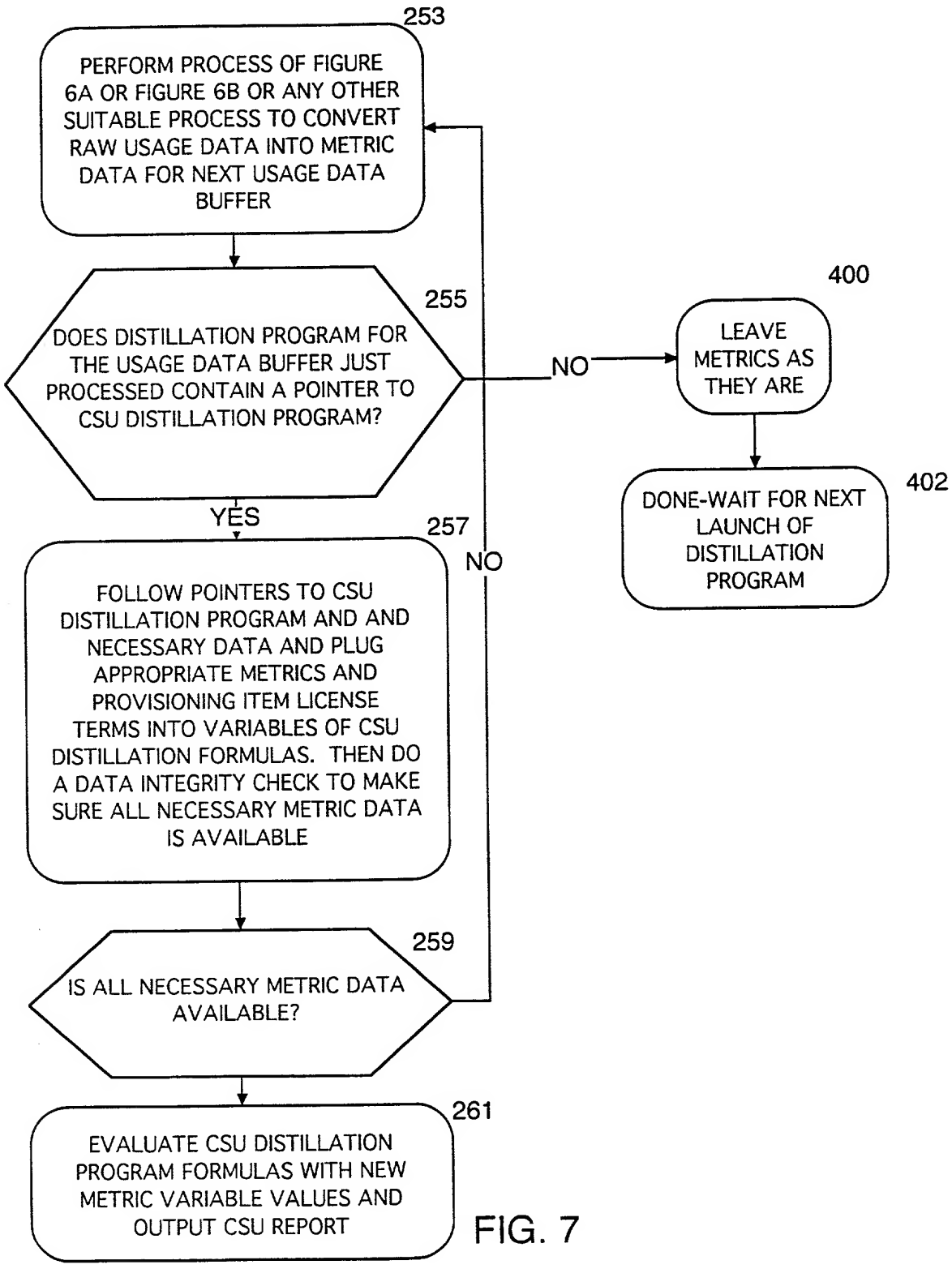


FIG. 7

OVERALL PROCESS TO COLLECT RAW USAGE DATA IN A CENTRAL SERVER AND USE IT TO PREPARE METRICS AND PREPARE INVOICES OR REPORTS THEREFROM

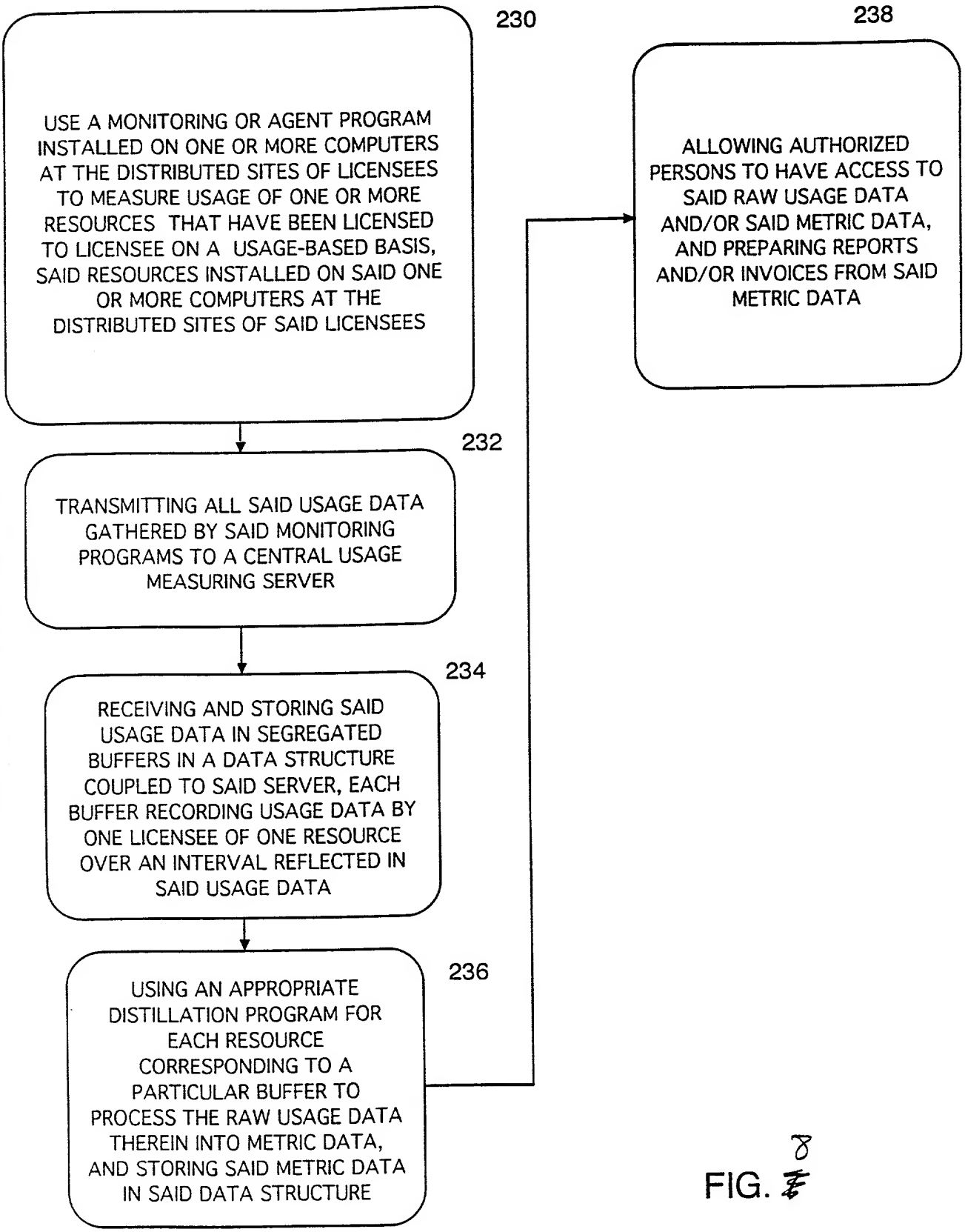


FIG. 8

PROCESS TO BUILD USAGE MEASURING SERVER DATA STRUCTURE AND ALLOW RESTRICTED ACCESS THERETO

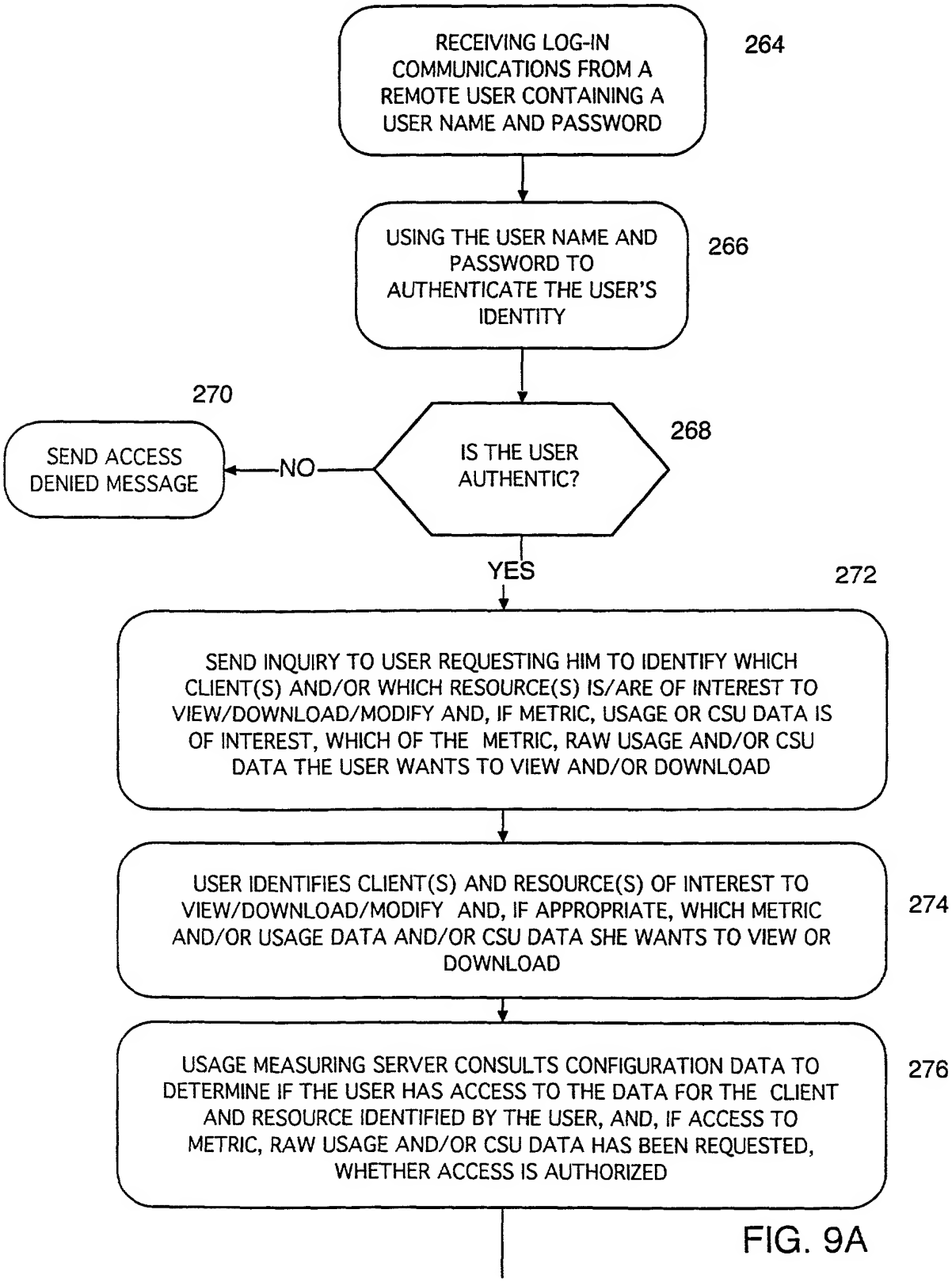


FIG. 9A

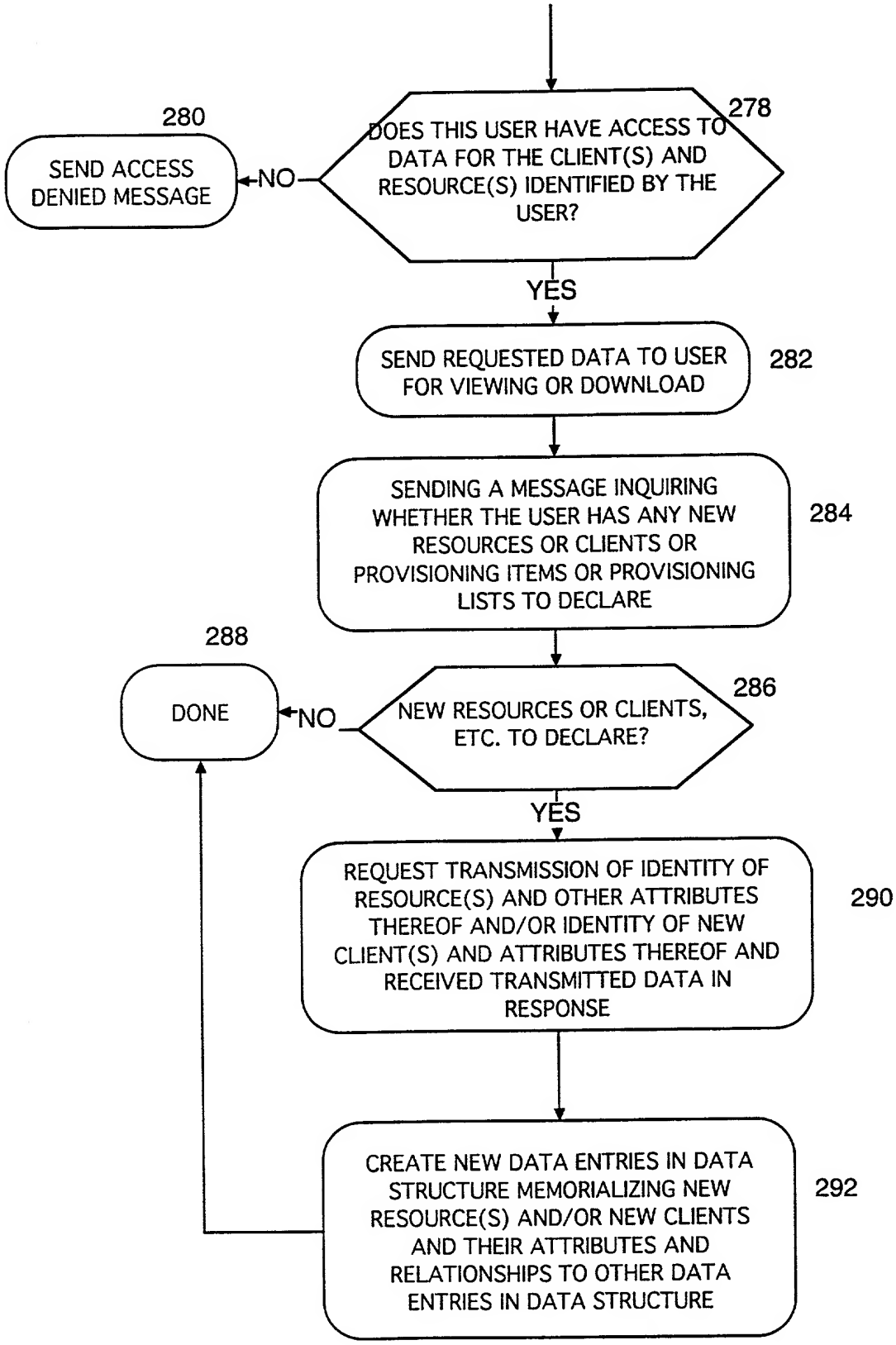

DOES THIS USER HAVE ACCESS TO DATA FOR THE CLIENT(S) AND RESOURCE(S) IDENTIFIED BY THE USER?
278
NO
SEND ACCESS DENIED MESSAGE
280
YES
SEND REQUESTED DATA TO USER FOR VIEWING OR DOWNLOAD
282
SENDING A MESSAGE INQUIRING WHETHER THE USER HAS ANY NEW RESOURCES OR CLIENTS OR PROVISIONING ITEMS OR PROVISIONING LISTS TO DECLARE
284
NEW RESOURCES OR CLIENTS, ETC. TO DECLARE?
286
NO
DONE
288
YES
REQUEST TRANSMISSION OF IDENTITY OF RESOURCE(S) AND OTHER ATTRIBUTES THEREOF AND/OR IDENTITY OF NEW CLIENT(S) AND ATTRIBUTES THEREOF AND RECEIVED TRANSMITTED DATA IN RESPONSE
290
CREATE NEW DATA ENTRIES IN DATA STRUCTURE MEMORIALIZING NEW RESOURCE(S) AND/OR NEW CLIENTS AND THEIR ATTRIBUTES AND RELATIONSHIPS TO OTHER DATA ENTRIES IN DATA STRUCTURE
292

FIG. 9B

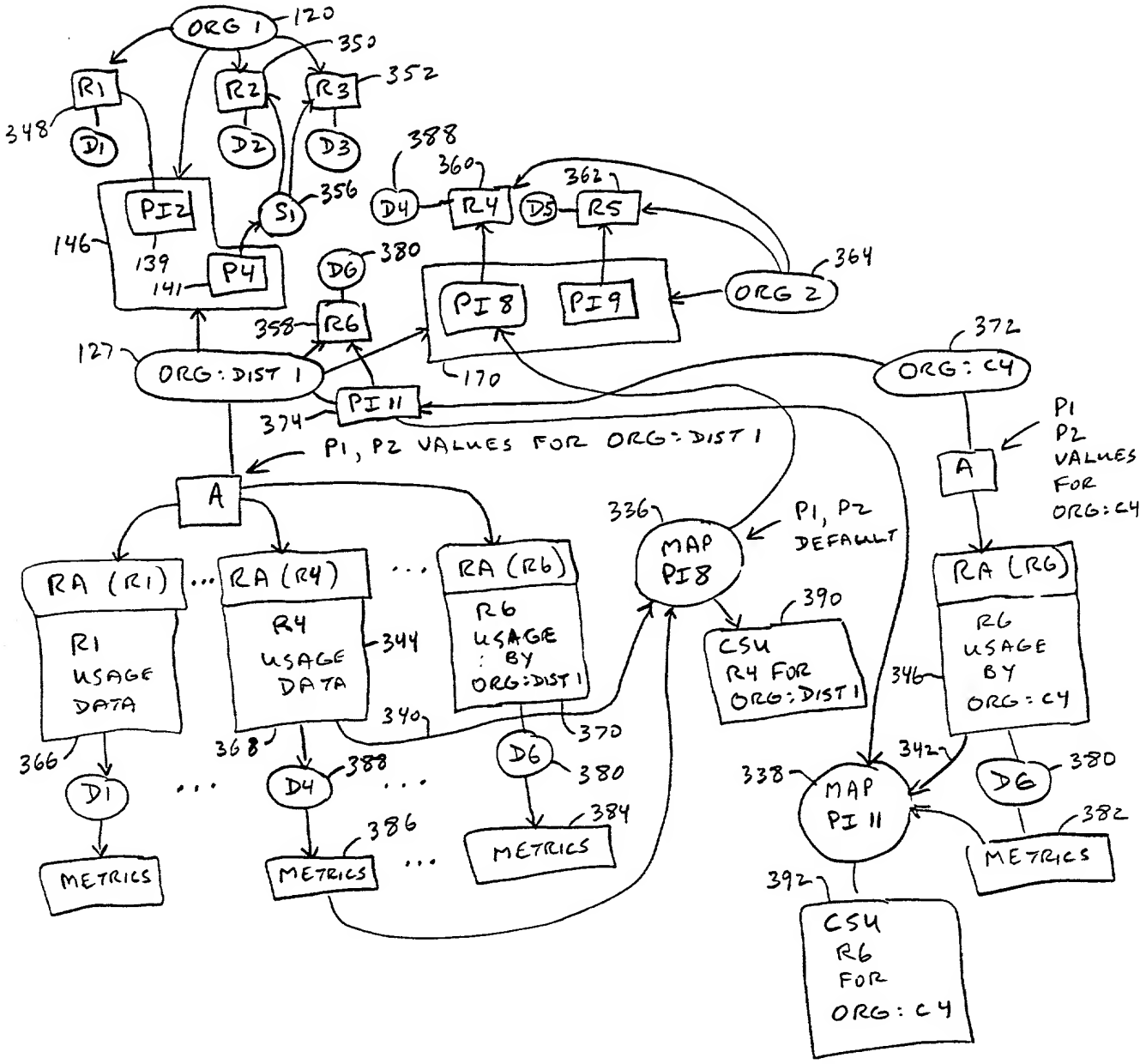

ORG 1
120
350
352
R1
R2
R3
348
D1
D2
D3
388
360
362
D4
R4
D5
R5
356
S1
PI2
146
139
141
P4
DG
380
364
ORG 2
PI 8
PI 9
358
R6
372
127
ORG : DIST 1
170
ORG : C4
PI 11
374
P1, P2 VALUES FOR ORG : DIST 1
P1
P2
VALUES
FOR
ORG : C4
A
A
336
MAP
PI 8
P1, P2
DEFAULT
RA (R1)
RA (R4)
RA (R6)
RA (RG)
R1
USAGE
DATA
R4
USAGE
DATA
344
R6
USAGE
BY
ORG : DIST 1
390
CSU
R4 FOR
ORG : DIST 1
346
R6
USAGE
BY
ORG : C4
340
370
368
366
342
338
D1
D4
388
D6
380
DG
380
MAP
PI 11
386
384
382
METRICS
METRICS
METRICS
METRICS
392
CSU
R6
FOR
ORG : C4

FIG. 10

ALTERNATIVE PROCESS TO PROGRAMMABLY DISTILL RAW USAGE DATA TO METRICS AND PROGRAMMABLY DISTILL THE METRICS INTO CENTRAL SERVICE UNITS USING A CSU DISTILLATION PROGRAM LINKED TO PROVISIONING ITEM DETAILING LICENSE TERMS

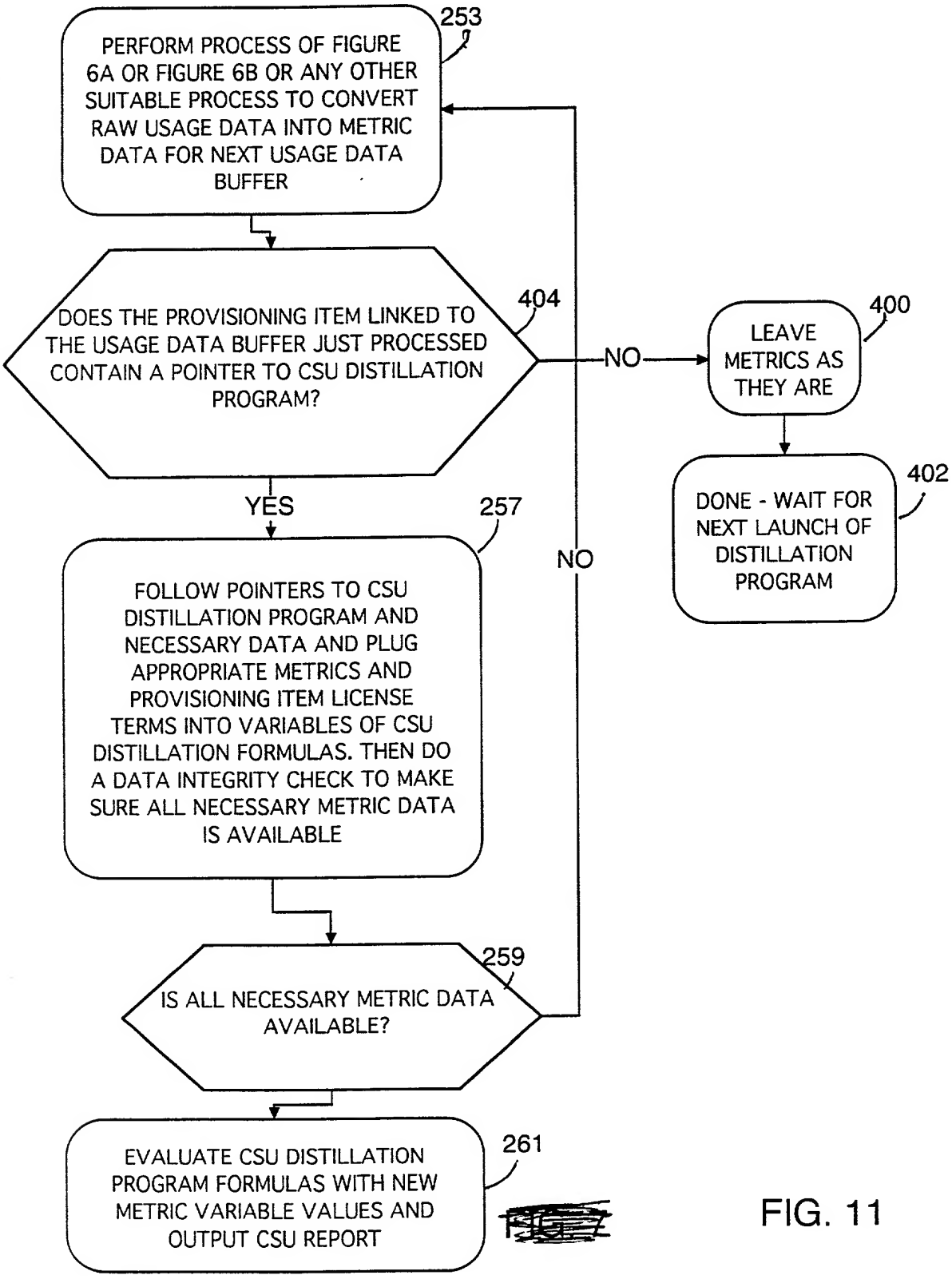


FIG. 11

ALTERNATIVE PROCESS TO PROGRAMMABLY DISTILL RAW USAGE DATA TO METRICS AND PROGRAMMABLY DISTILL THE METRICS INTO CENTRAL SERVICE UNITS USING A CSU DISTILLATION PROGRAM LINKED TO THE USAGE DATA BUFFER OF EACH CLIENT THAT WANTS CSU BASED REPORTS

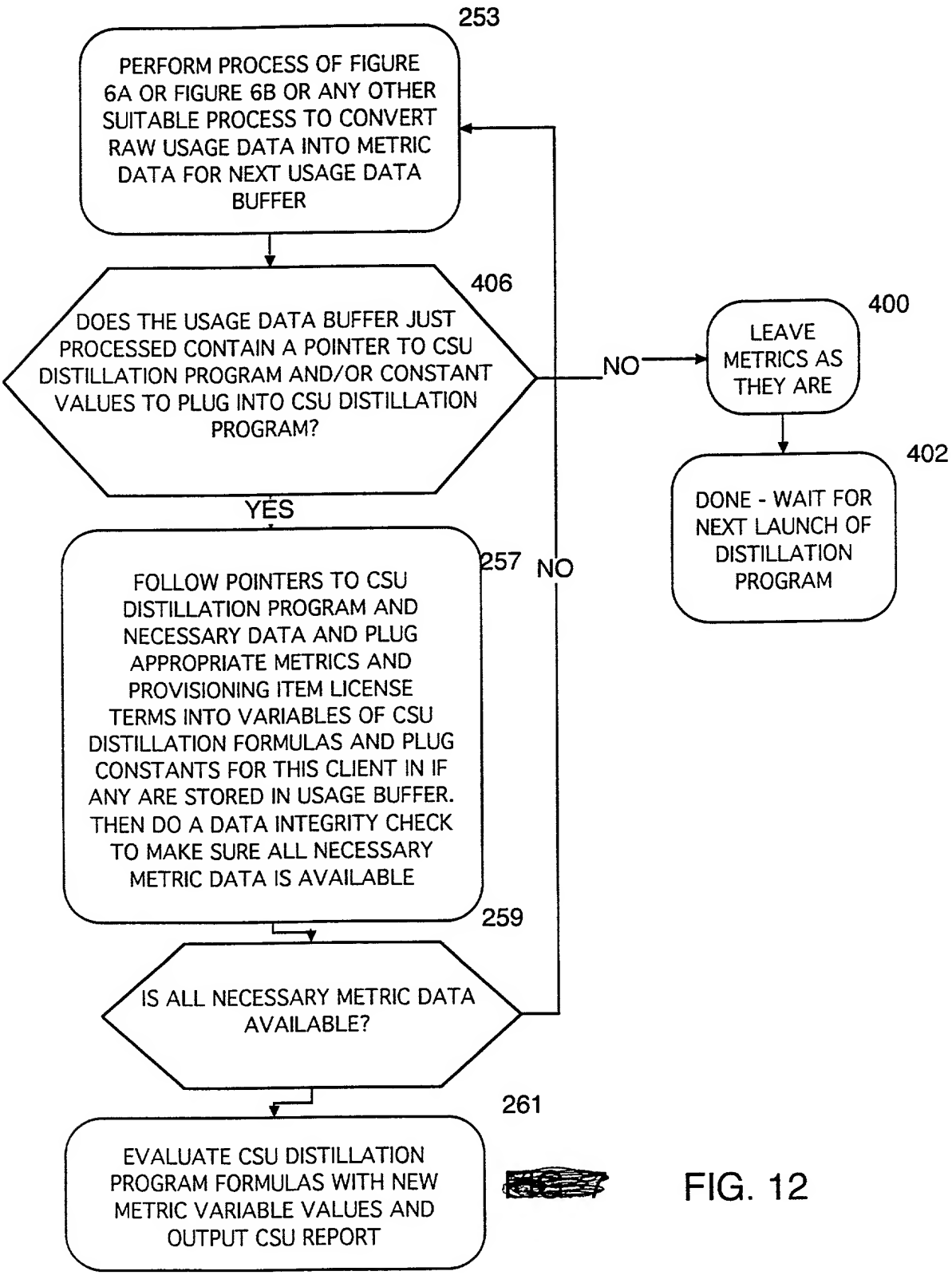


FIG. 12

PROCESS TO CREATE DATA STRUCTURE TO SUPPORT SUITE LICENSING AND TO USE THE DATA STRUCTURE TO IMPLEMENT SUITE LICENSING

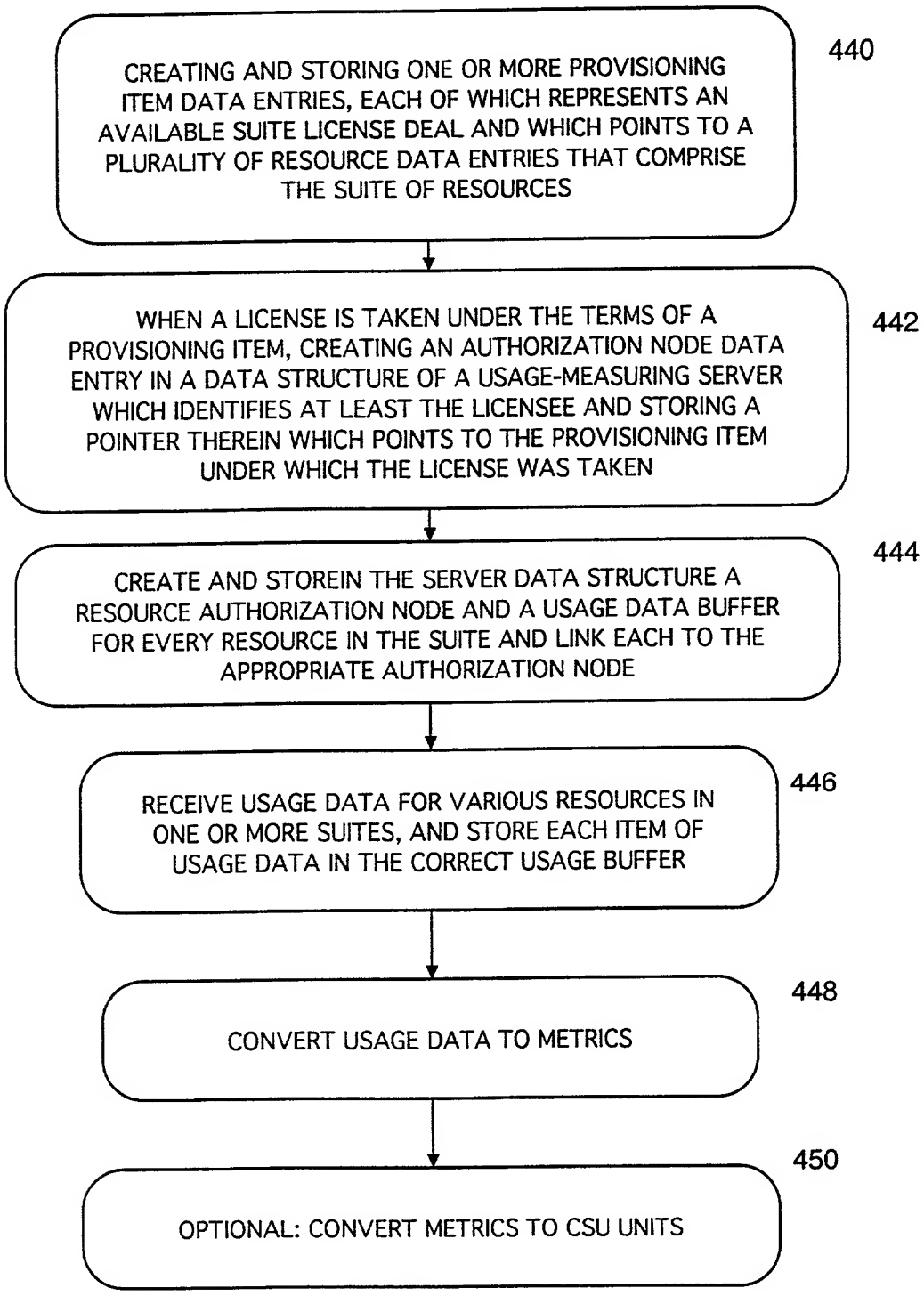


FIG. 13

ONE STOP SHOPPING PROCESS TO DETERMINE ALL AVAILABLE LICENSE DEALS ON A PARTICULAR RESOURCE

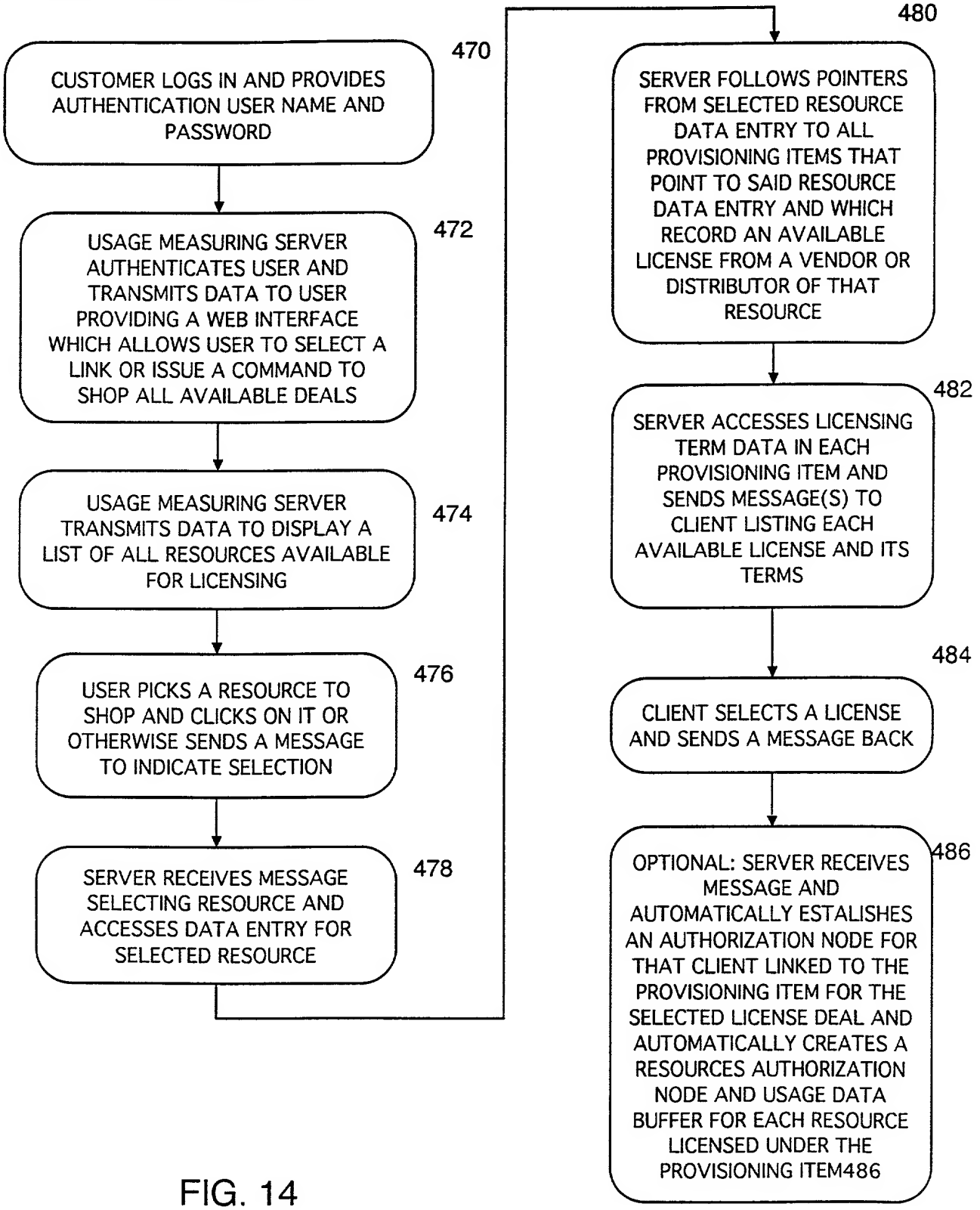


FIG. 14

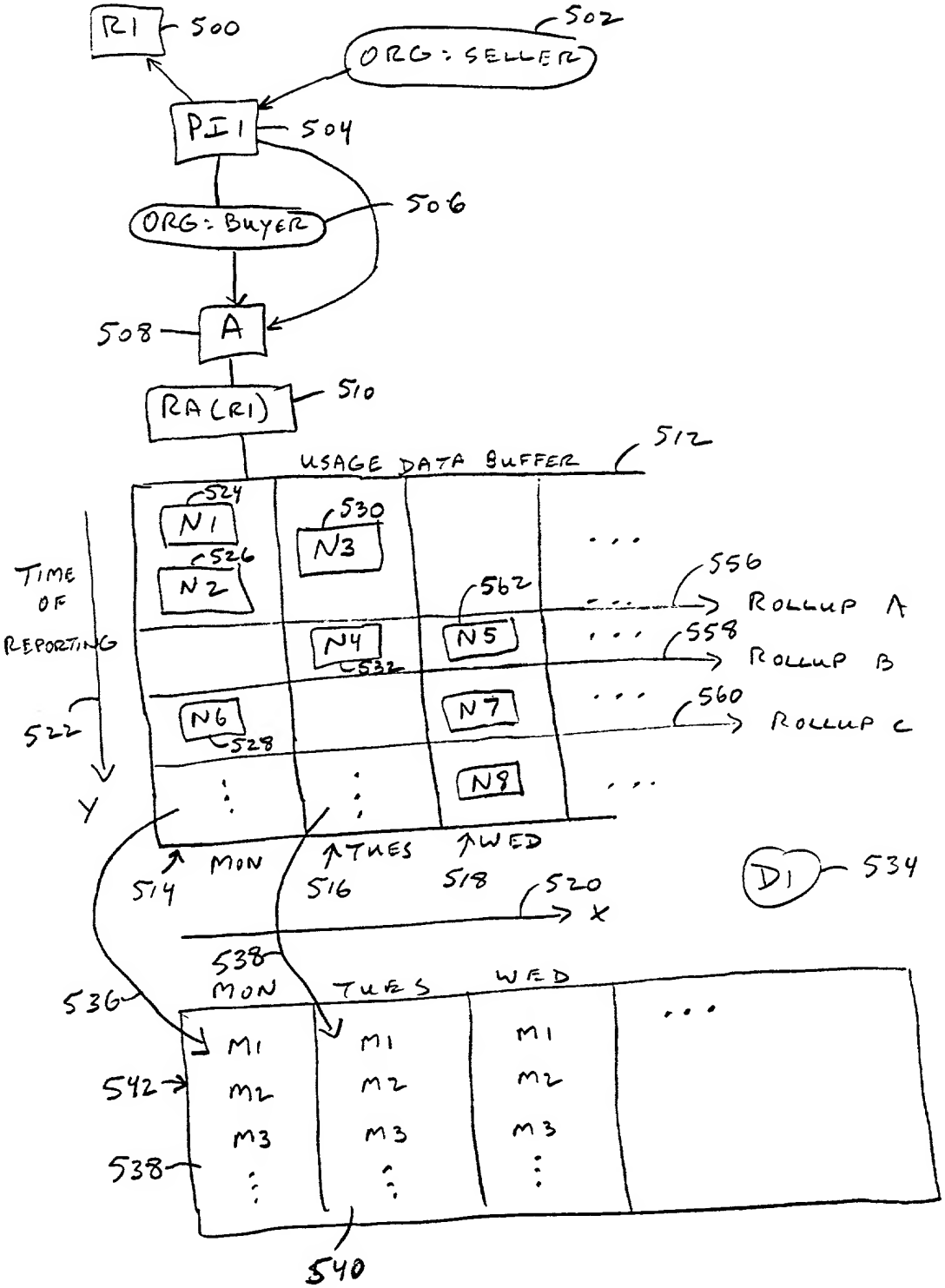

R1
500
ORG: SELLER
502
PI1
504
ORG: BUYER
506
508
A
RA(R1)
510
USAGE DATA BUFFER
512
524
N1
526
N2
530
N3
562
N4
532
N5
N6
528
N7
N8
556
ROLLUP A
558
ROLLUP B
560
ROLLUP C
TIME OF REPORTING
522
Y
MON
TUES
WED
514
516
518
520
X
D1
534
538
MON
TUES
WED
536
M1
M2
M3
542
538
540

FIG. 15

PROCESS TO COLLECT USAGE DATA, PARTITION IT INTO TIME SEGMENTS AND GENERATE METRICS THEREFROM

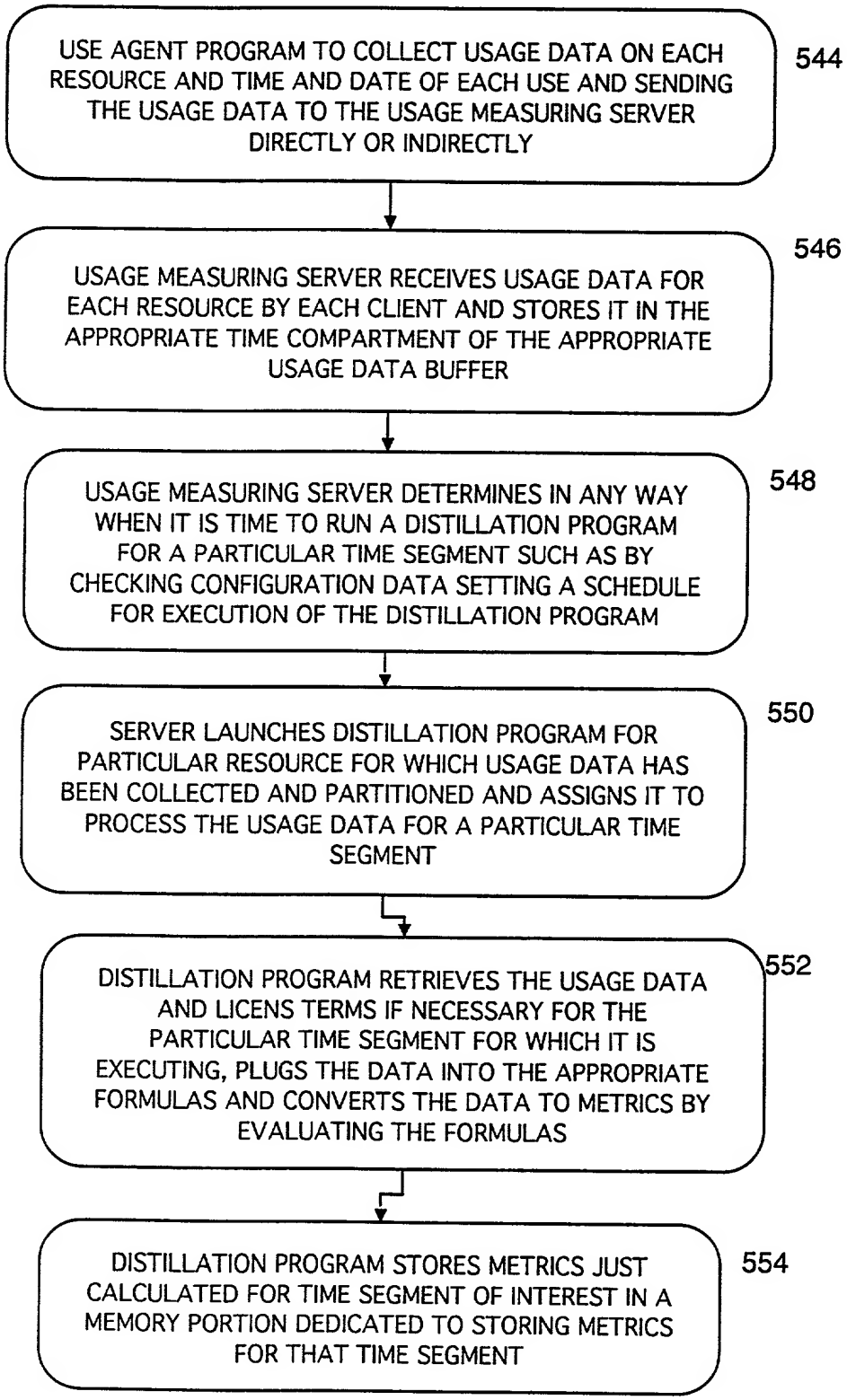


FIG. 16

ROLLUP A ID 39

	MON	TUES	WED	...
M1 = CPU	10	1	0	...
M2 = DOCS	500	50	0	...
M3 = # PGS	759	71	0	...
	⋮	⋮	⋮	

FIG. 17

ALTERNATIVE ROLLUP B ID 40

MON	TUES	WED
0	3	2
0	70	40
0	139	96

FIG. 18

PREFERRED ROLLUP B ID 50

MON	TUES	WED	
10	4	2	
500	120	40	
759	210	96	

FIG. 19

ALTERNATIVE ROLLUP B ID 40

MON	TUES	WED
0	4	2
0	120	40
0	210	96

FIG. 20

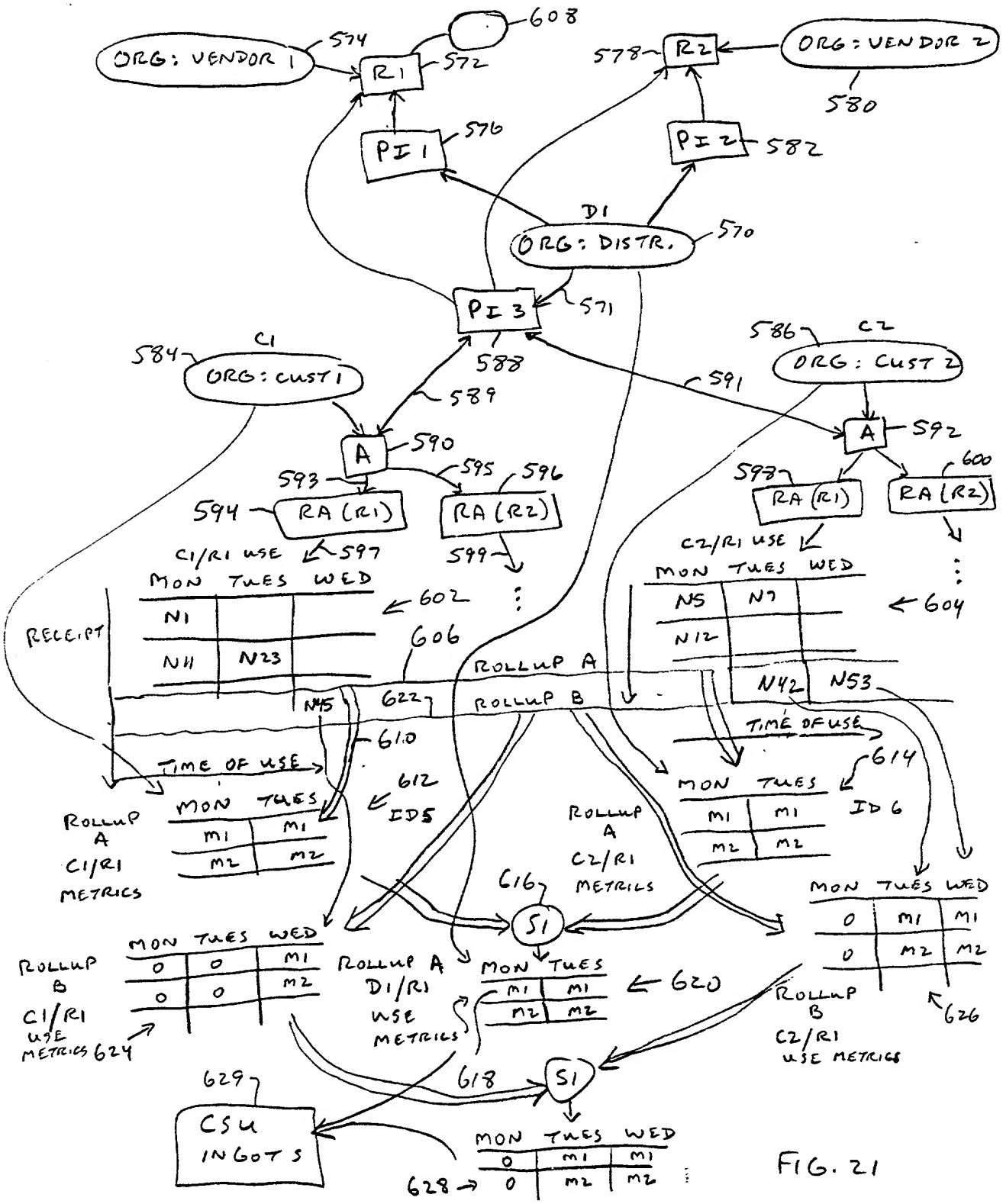

ORG: VENDOR 1
574
R1
572
608
578
R2
ORG: VENDOR 2
580
PI 1
576
PI 2
582
D1
ORG: DISTR.
570
PI 3
571
584
C1
ORG: CUST 1
588
589
586
C2
ORG: CUST 2
591
A
590
A
592
593
595
596
598
600
RA (R1)
RA (R2)
RA (R1)
RA (R2)
594
C1/R1 USE
597
599
C2/R1 USE
MON TUES WED
N1
N11
N23
602
606
RECEIPT
ROLLUP A
ROLLUP B
N45
622
610
TIME OF USE
N5
N7
N12
N42
N53
604
TIME OF USE
614
612
ID5
MON TUES
M1 M1
M2 M2
ROLLUP A C1/R1 METRICS
ROLLUP A C2/R1 METRICS
ID 6
616
S1
MON TUES WED
0 0 M1
0 0 M2
ROLLUP B C1/R1 USE METRICS
624
ROLLUP A D1/R1 USE METRICS
620
MON TUES
M1 M1
M2 M2
MON TUES WED
0 M1 M1
0 M2 M2
626
ROLLUP B C2/R1 USE METRICS
629
618
S1
CSU INGOTS
MON TUES WED
0 M1 M1
628
0 M2 M2

FIG. 21

PROCESS FOR ONE PROTOCOL ACCESS TO USAGE/METRIC/CSU DATA FOR ALL LICENSEES OF A LICENSOR FROM A USAGE MEASURING SERVER

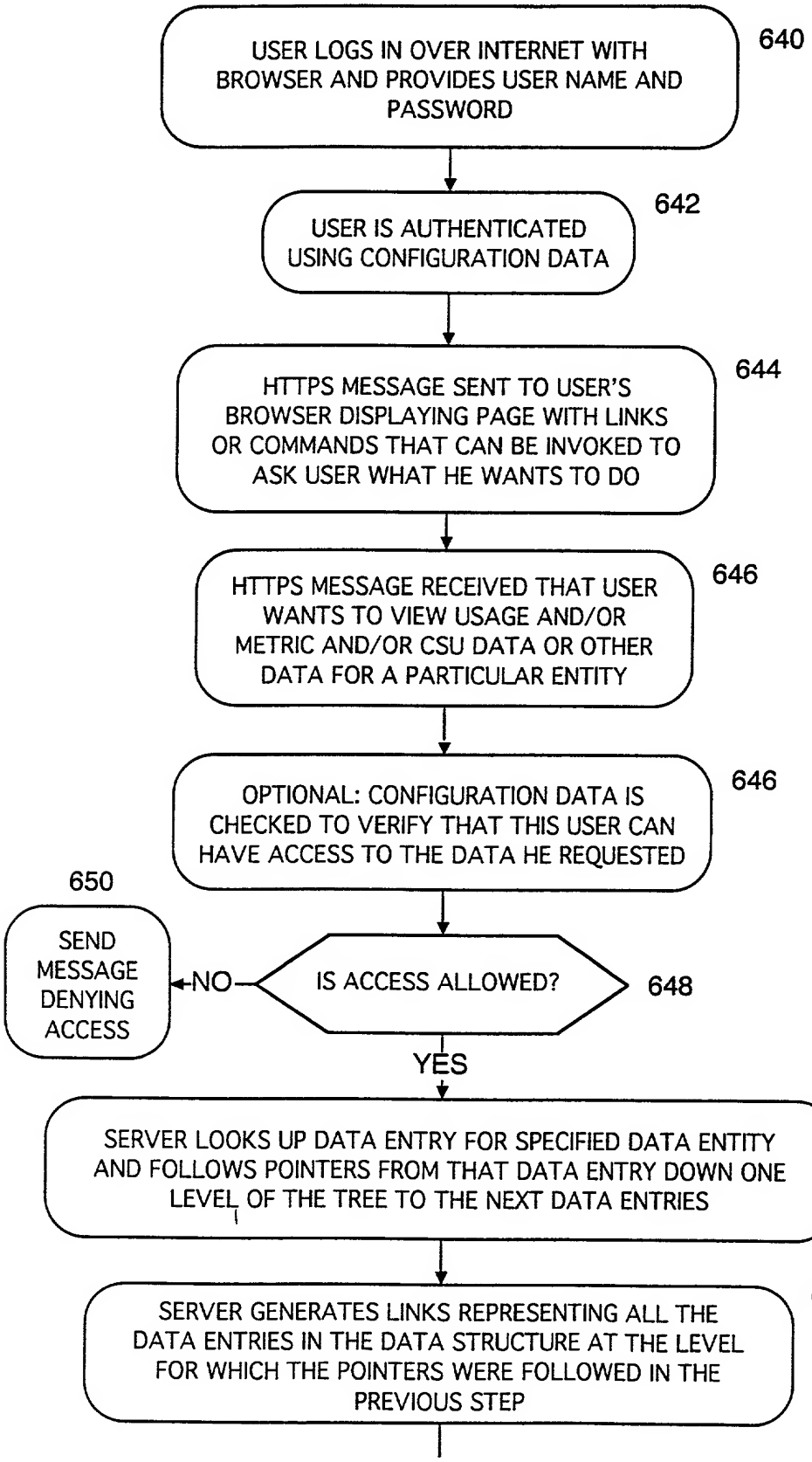


FIG. 22A

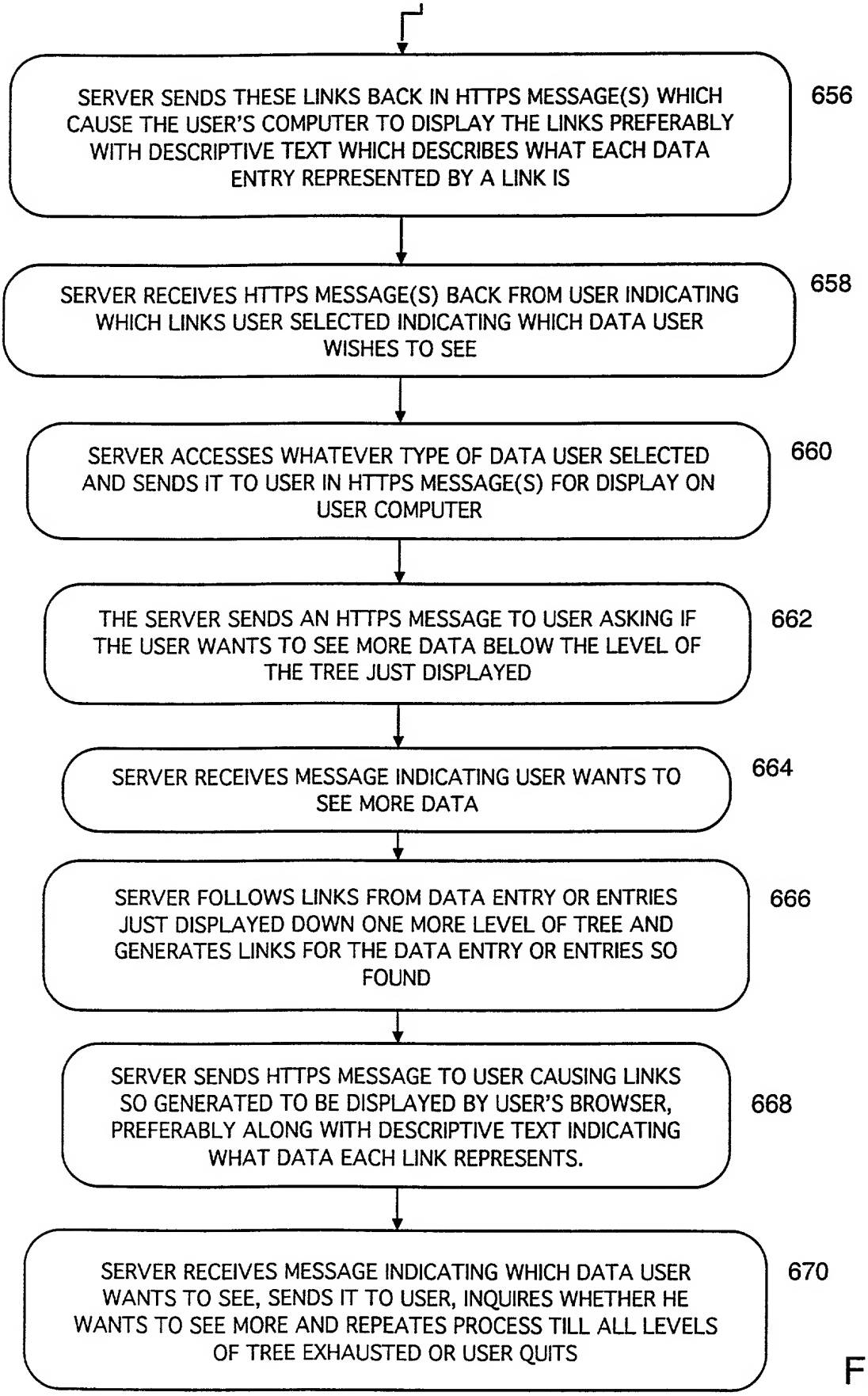
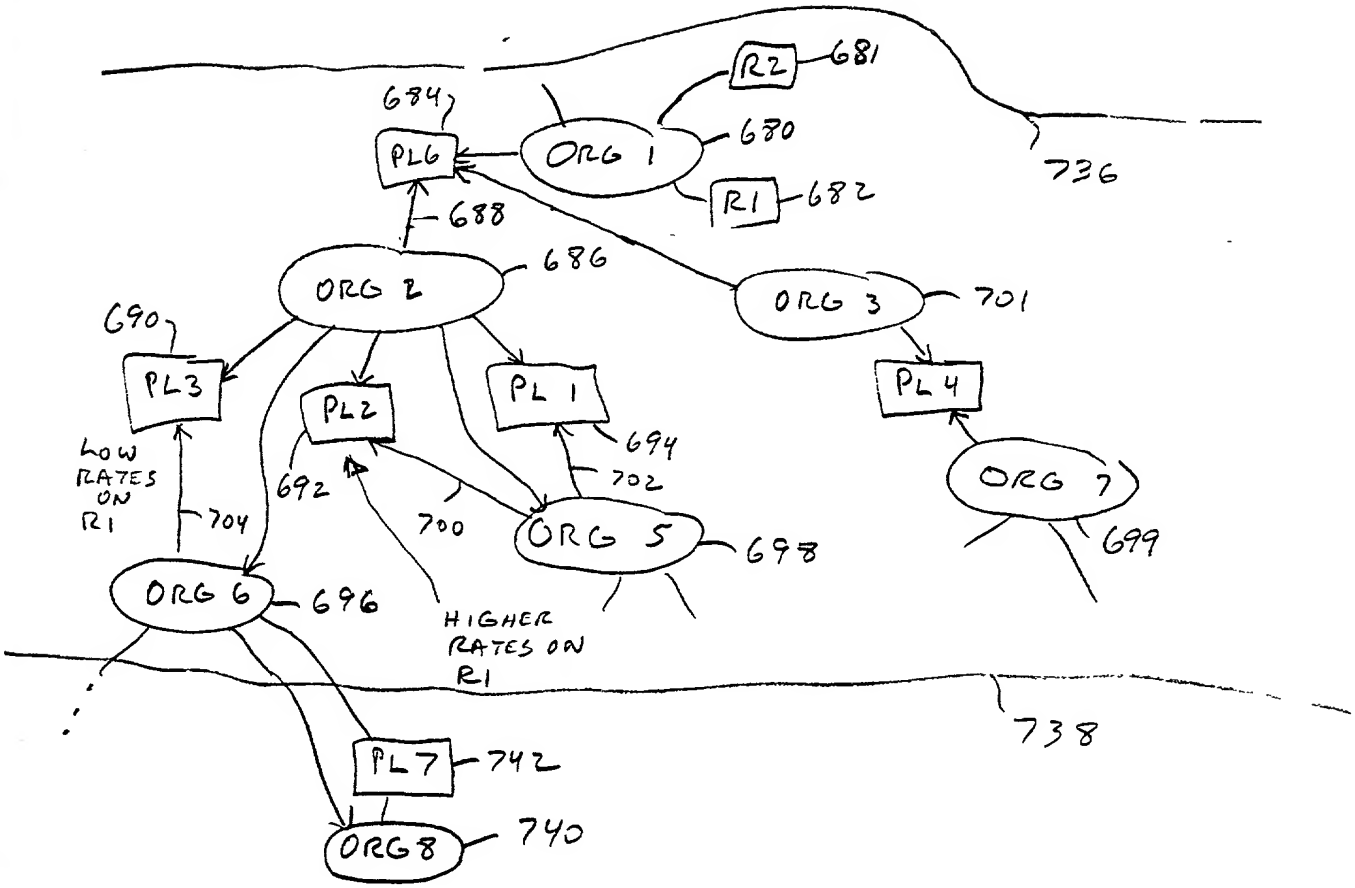

SERVER SENDS THESE LINKS BACK IN HTTPS MESSAGE(S) WHICH CAUSE THE USER'S COMPUTER TO DISPLAY THE LINKS PREFERABLY WITH DESCRIPTIVE TEXT WHICH DESCRIBES WHAT EACH DATA ENTRY REPRESENTED BY A LINK IS
656
SERVER RECEIVES HTTPS MESSAGE(S) BACK FROM USER INDICATING WHICH LINKS USER SELECTED INDICATING WHICH DATA USER WISHES TO SEE
658
SERVER ACCESSES WHATEVER TYPE OF DATA USER SELECTED AND SENDS IT TO USER IN HTTPS MESSAGE(S) FOR DISPLAY ON USER COMPUTER
660
THE SERVER SENDS AN HTTPS MESSAGE TO USER ASKING IF THE USER WANTS TO SEE MORE DATA BELOW THE LEVEL OF THE TREE JUST DISPLAYED
662
SERVER RECEIVES MESSAGE INDICATING USER WANTS TO SEE MORE DATA
664
SERVER FOLLOWS LINKS FROM DATA ENTRY OR ENTRIES JUST DISPLAYED DOWN ONE MORE LEVEL OF TREE AND GENERATES LINKS FOR THE DATA ENTRY OR ENTRIES SO FOUND
666
SERVER SENDS HTTPS MESSAGE TO USER CAUSING LINKS SO GENERATED TO BE DISPLAYED BY USER'S BROWSER, PREFERABLY ALONG WITH DESCRIPTIVE TEXT INDICATING WHAT DATA EACH LINK REPRESENTS.
668
SERVER RECEIVES MESSAGE INDICATING WHICH DATA USER WANTS TO SEE, SENDS IT TO USER, INQUIRES WHETHER HE WANTS TO SEE MORE AND REPEATES PROCESS TILL ALL LEVELS OF TREE EXHAUSTED OR USER QUITS
670

FIG. 22B



SECURITY BARRIERS

FIG. 23

A PROCESS TO IMPLEMENT SECURITY BARRIERS TO PREVENT USERS FROM VIEWING DATA IN A USAGE MEASURING SERVER DATA STRUCTURE THAT THE USER IS NOT AUTHORIZED TO VIEW

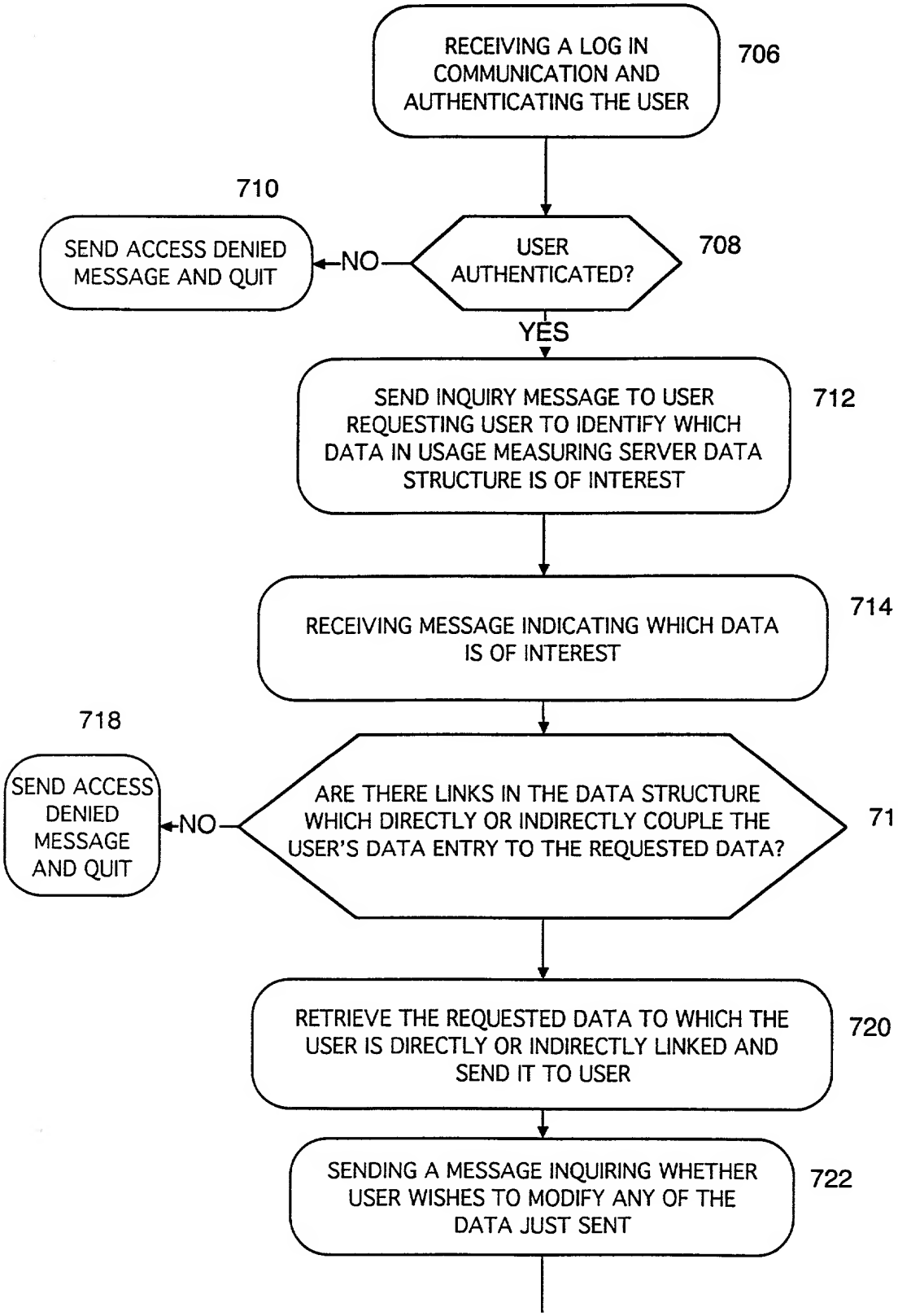


FIG. 24A

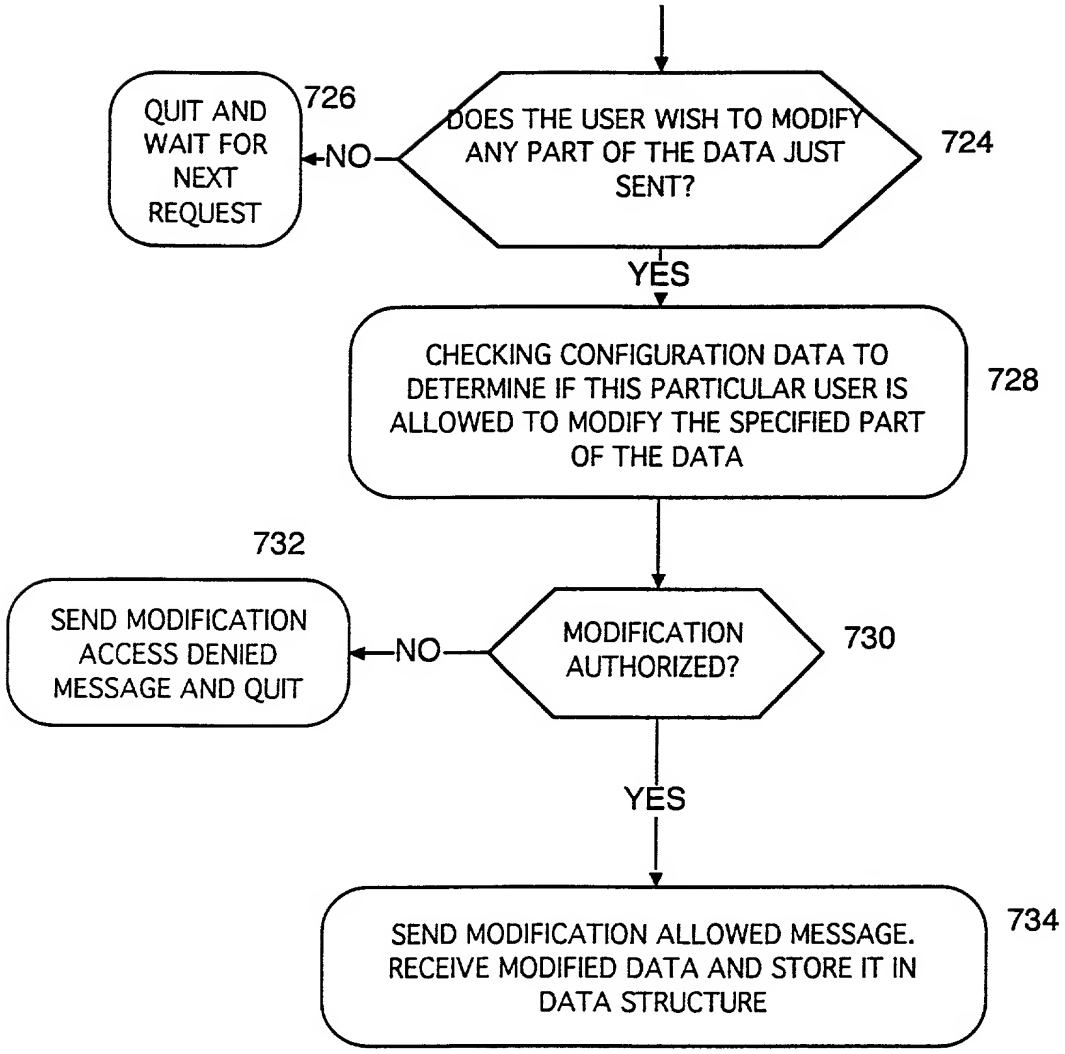

DOES THE USER WISH TO MODIFY ANY PART OF THE DATA JUST SENT?
724
NO
QUIT AND WAIT FOR NEXT REQUEST
726
YES
CHECKING CONFIGURATION DATA TO DETERMINE IF THIS PARTICULAR USER IS ALLOWED TO MODIFY THE SPECIFIED PART OF THE DATA
728
MODIFICATION AUTHORIZED?
730
NO
SEND MODIFICATION ACCESS DENIED MESSAGE AND QUIT
732
YES
SEND MODIFICATION ALLOWED MESSAGE. RECEIVE MODIFIED DATA AND STORE IT IN DATA STRUCTURE
734

FIG. 24B

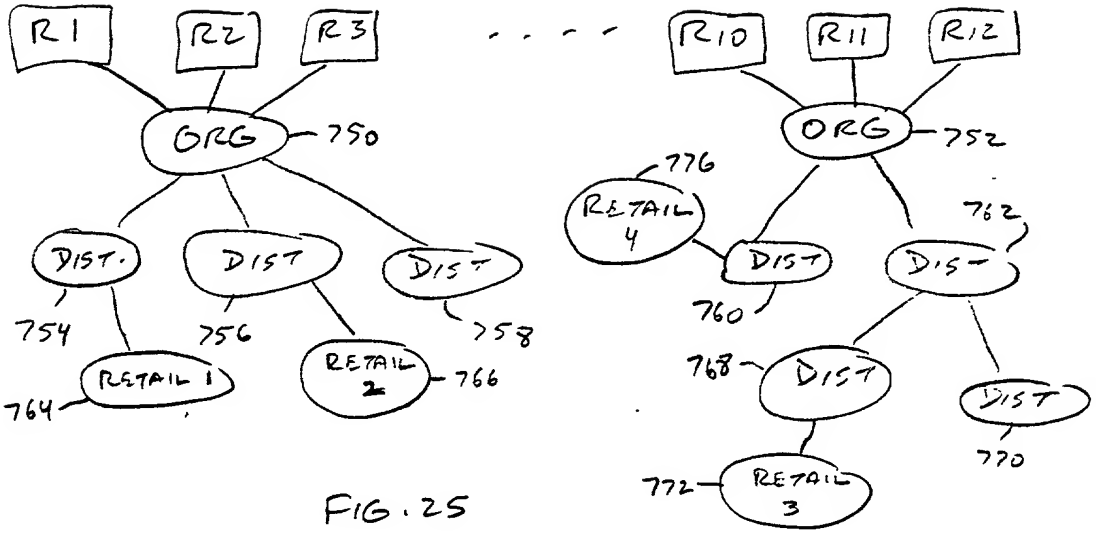

R1
R2
R3
R10
R11
R12
ORG
750
ORG
752
776
RETAIL 4
762
DIST
DIST
DIST
DIST
DIST
754
756
758
760
768
RETAIL 1
RETAIL 2
766
764
DIST
DIST
772
RETAIL 3
770

FIG. 25

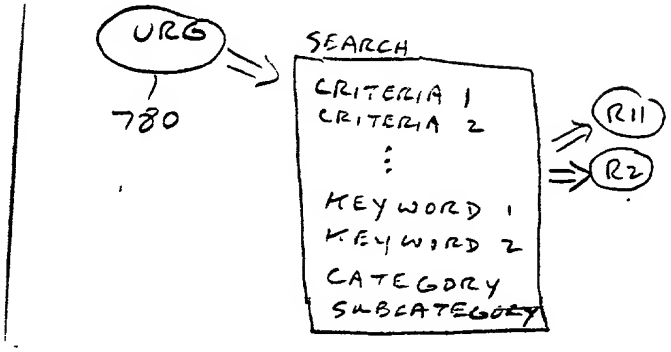

URG
780
SEARCH
CRITERIA 1
CRITERIA 2
KEYWORD 1
KEYWORD 2
CATEGORY
SUBCATEGORY
R11
R2

FIG. 26

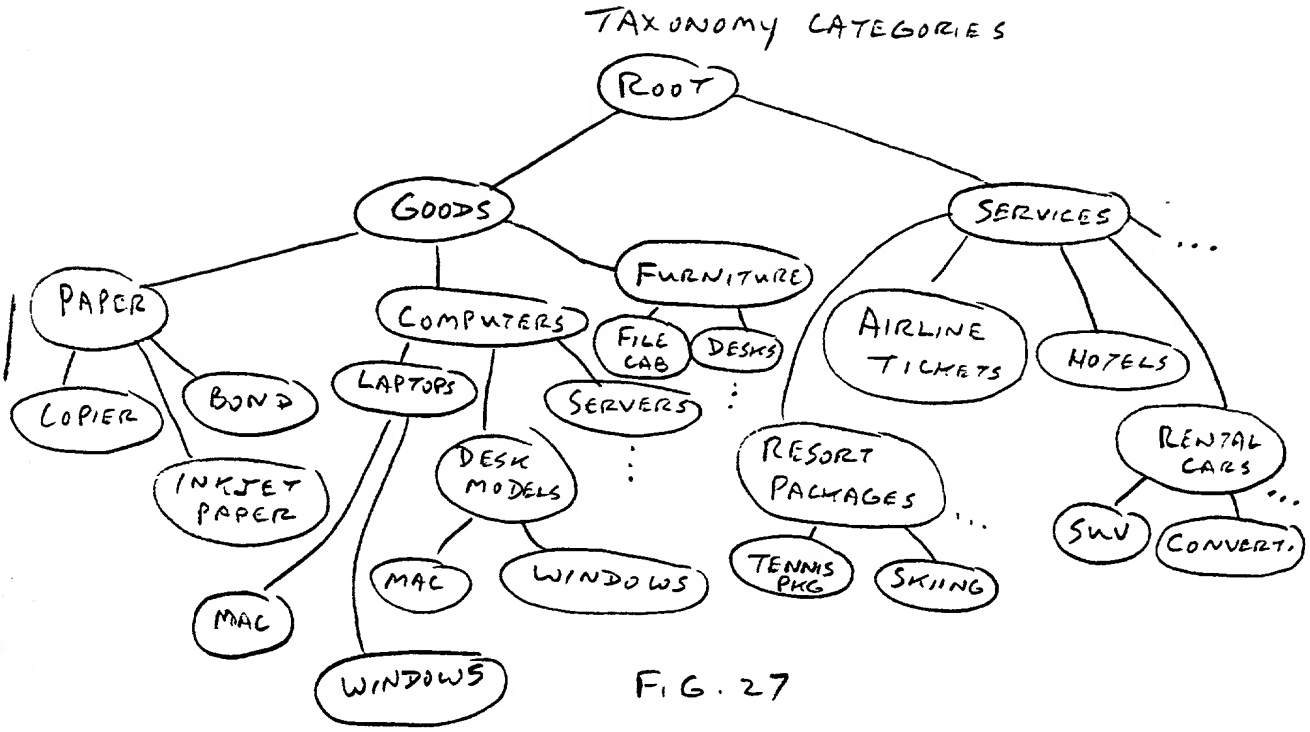

TAXONOMY CATEGORIES
ROOT
GOODS
SERVICES
PAPER
COMPUTERS
FURNITURE
AIRLINE TICKETS
HOTELS
COPIER
BOND
INKJET PAPER
LAPTOPS
DESK MODELS
SERVERS
FILE CAB
DESKS
RESORT PACKAGES
RENTAL CARS
TENNIS PKG
SKIING
SUV
CONVERT.
MAC
WINDOWS
MAC
WINDOWS

FIG. 27

SERVER PROCESSING TO IMPLEMENT ONE-STOP SHOPPING SEARCHING OF THE DATA STRUCTURE BASED UPON USER-DEFINED CRITERIA

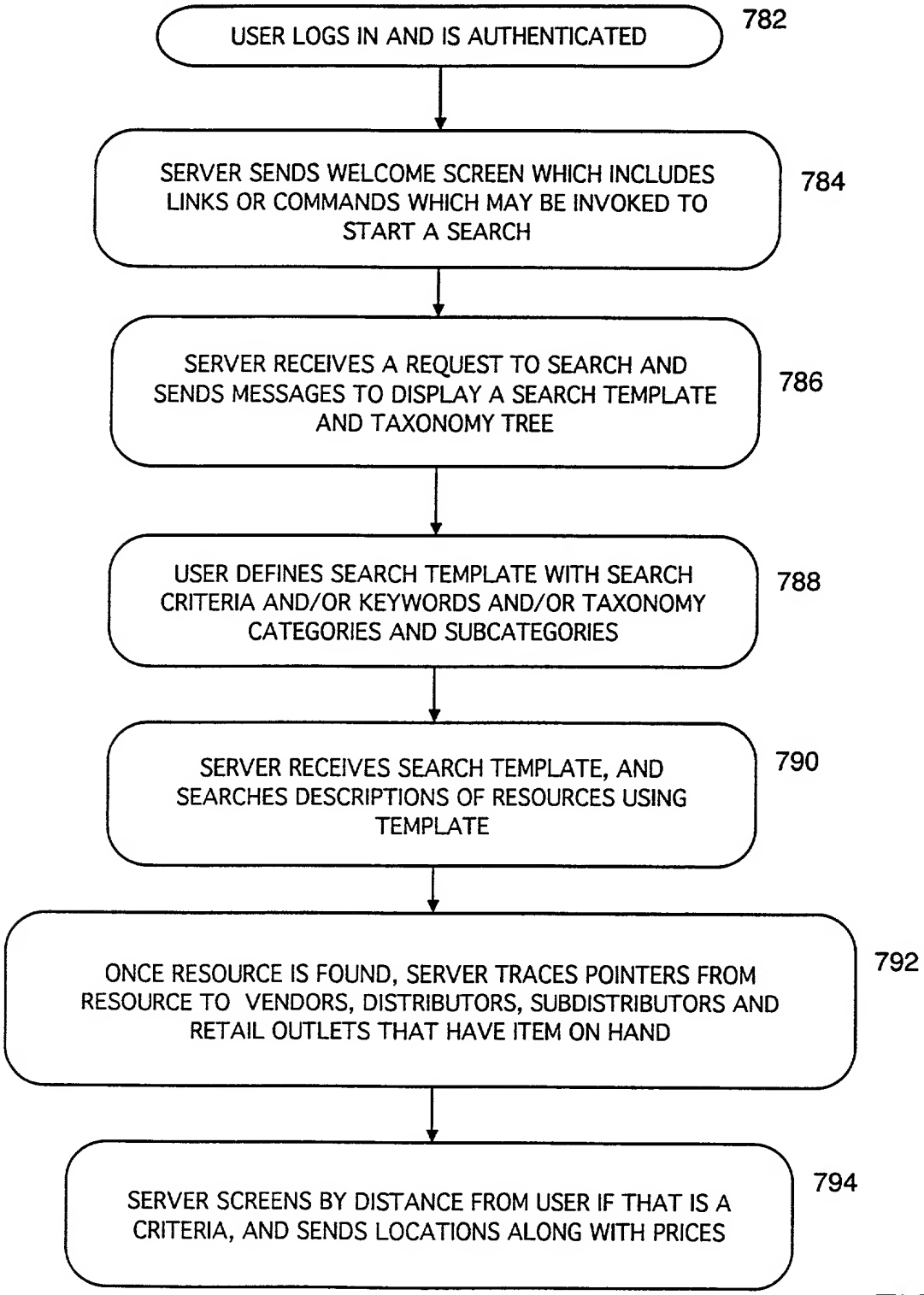


FIG. 28